VOL. XXXI. CLEVELAND, O., JANUARY 12, 1905. No. 2.

BOILER EXPLOSION ON TOW BOAT DEFENDER

On the evening of Jan. 3 the boilers on the tow boat Defender while on her way to Pittsburg on the Ohio river exploded near Huntington, W. Va., wrecking the boat which immediately caught fire, and causing the death of ten of her crew of thirty-six and the serious injury of nearly every one of the remainder. The coroner's jury immediately returned a verdict of defective boilers. How extensive the examination went into the accident cannot be learned at this time, but the constantly increasing number of accidents on Western rivers from boiler accidents has led Capt. Thomas M. Rees of the James Rees & Sons Co., Pittsburg, to conclude that boiler plate as at present constructed is at fault.

"I am afraid of the steamboat boiler plate as at present constructed, and the boilermakers of the United States, almost without exception are afraid of it," he said in discussing the accident. "The plate must show a tensile strength of 70,000 lbs., with an elongation of 25 per cent in 8 in. and a 50 per cent reduction in area. Very few of the steel manufacturers are willing to make steel of this kind, knowing as they do that the material will be defective. To secure the proper elongation and reduction in area tests recently made of an 8-in. test piece, which has been recently changed to 9 in. showed a tensile strength of 73,500 lbs., while a 1-in. test bar gave a tensile strength of 38,550 lbs., which is entirely too high for safety.

"We used the first steel boiler plate for marine purposes in 1870 and never had any trouble until 1894 when the Board of Supervising Inspectors of Steam Vessels changed the requirements. Since that time we have had no end of trouble. I believe that by reducing the factor of safety from 6 to 5 with a plate showing 60,000 lbs. tensile strength would right matters, but if the laws governing boiler plate for marine purposes are not changed I look for more boiler explosions on the rivers where externally fired boilers are in use. With the steam pressure allowed and required on Western rivers none of the boilers having plate in them meeting these specifications are safe and navigation ships thus equipped is absolutely dangerous. The refusal of many eminent steel concerns in this country to manufacture plate to meet such specifications should give ample proof to the board that their specifications are wrong."

The Defender is one of the fleet of the Monongahela Consolidated Coal & Coke Co., Pittsburg, and was returning from Cincinnati with a number of coal barges in tow.

The Jones & Adams Coal Co. has closed an option upon 23 acres of the bay front at Superior, Wis., upon which will be located a coal dock with 400,000 tons storage capacity.

SHIP CONSTRUCTION FOR SIX MONTHS

The bureau of navigation reports 542 sail and steam vessels of 92,598 gross tons built in the United States and officially numbered during the six months ending December 31, 1904, as follows:

Districts.	Wood.				Steel.				Total.	
	Sail		Steam.		Sail.		Steam.			
	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.
Atlantic & Gulf	195	57,180	123	4,688	2	662	25	16,955	345	79,485
Porto Rico	2	22	....	....	....	....	....	....	2	22
Pacific	16	2,855	57	3,937	....	....	....	....	73	6,792
Hawaii	....	....	....	....	....	....	....	....	....	....
Great L'k's	12	166	20	429	....	....	5	2,498	37	3,093
Western Rivers	....	....	84	3,187	....	....	1	19	85	3 206
Total	225	60,223	284	12,241	2	662	31	19,472	542	92,598

During the corresponding six months ending Dec. 31, 1903, 571 sail and steam vessels of 177,067 gross tons were built in the United States and officially numbered, as follows:

Districts	Wood.				Steel.				Total.	
	Sail.		Steam.		Sail.		Steam.			
	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.
Atlantic and Gulf	187	20,838	140	7,530	2	6,956	20	36,077	349	71,401
Porto Rico	4	69	....	....	....	....	....	....	4	69
Pacific	12	2,081	55	6,787	....	....	2	753	69	9,621
Hawaii	....	....	....	....	....	....	....	....	....	....
Great L'k's	3	36	33	755	....	....	28	89,562	64	90,353
Western Rivers	....	....	85	5,623	....	....	....	....	85	5,623
Total	206	23 024	313	20,695	2	6,956	50	26,392	571	177,067

The total for the calendar year of 1904 is less than it has been for four years past. The number of vessels built was 1,065 of 265,104 gross tons as against 1,159 of 381,970 tons for 1903, 1,262 vessels of 429,327 tons during 1902 and 1,322 vessels of 376,129 tons during 1901.

The Buffalo harbor of the Masters' & Pilots' association in voting to disband has done much to put an end to that organization officially. It probably never will be revived again as it has been proved impractical for masters to belong to the same organization as their mates; nor is it likely that the mates themselves will, for the present at least, form an organization. Influences have been brought to bear upon them which make it to their advantage to deal with their employers as individuals and a great many of them have already signed upon that basis for the season of 1905.

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LIVERPOOL SHIPPING LETTER

Liverpool, Jan. 2.—The ship building returns covering the whole of Britain for 1904 are now available, and it is possible from them to tell with accuracy who are the largest tonnage producers. It is many years since a Clyde firm of ship builders, and especially one from Port Glasgow, occupied the first place among the ship builders of the year for the largest output of any single firm. Since 1900 Messrs. Harland & Wolff of Belfast have thrice headed the list, and Messrs. William Gray & Co. of West Hartlepool once. This year, however, Messrs. Russell & Co. of Port Glasgow take first place with an output of eighteen vessels of 73,689 tons. For some years past Messrs. Russell & Co have always been included within the first six firms heading the list, their output as usual consisting of large cargo and passenger steamers, chiefly of the spar-deck type and ranging in size from 2,500 to 5,000 tons gross register. Immediately after Messrs. Russell & Co. come Messrs. Swan, Hunter & Wigham Richardson, Ltd., of Wallsend, with twenty-two vessels of 73,592 tons, the difference of the two being, as will be seen, extremely small, only 97 tons. Following the before mentioned Clyde and Tyne firms in order of output come Messrs. W. Gray & Co., Ltd., of West Hartlepool, with eighteen steamers built and engined of 57,357 tons, which figure entitles them to rank third on the list. Two other northeast coast firms figure very prominently for their large outputs. These are Messrs. William Doxford & Sons of Sunderland and Messrs. J. L. Thompson & Sons of the same port, who have built respectively 53,050 tons and 44,270 tons. Messrs. Workman & Clark of Belfast have 44,272 tons to their credit, and Messrs. Harland & Wolff, whose figures have previously been so high, reach only 31,842 tons this year.

The year 1904 will be more particularly remembered in the annals of ship building as the year in which the turbine ocean steamers first made their appearance. There were of course turbine steamers before 1904—the King Edward began to run as a passenger steamer on the Clyde in 1901; the Queen and the Brighton began to run in the English channel in 1902. But there was no thought of an ocean turbine steamer till 1904. Early in this year the directors of the Cunard Line appointed a commission to investigate the question of the turbine in relation to swift ocean steaming, and the report of that commission was such as to determine the directors of the Cunard Line to give orders that their two new mail boats, the largest and the swiftest mail steamers in the world, should be fitted with turbines and not with ordinary reciprocating engines. Then the Allan Line directors gave orders that two steamers which were building for their Canadian Line, on the Clyde and at Belfast, should also be fitted with turbine engines, and both these steamers are approaching completion. A turbine steamer has already run from the United Kingdom to Australia in better time and on a smaller consumption of coal than a steamer with similar horse power and with reciprocating engines could make the voyage. The Cunard Line will further have a 21,000-ton turbine steamer—not one of their swift new vessels—afloat in a few weeks' time. The year's production of turbine machinery is 45,200 I. H. P., as against 26,400 I. H. P. last year. The huge turbine engines to be supplied to the two Allan and three Cunard liners will figure probably in next year's return. This output strikingly attests the rapid progress which the steam turbine is making.

The bureau of navigation reports that during December fifty-three vessels of 17,918 tons were built and officially numbered in the United States. The largest in the list were the tank steamer Capt. A. F. Lucas, completed at Roach's shipyard for the Standard Oil Co., and the Michigan Central Railway Co.'s car ferry Detroit, built by the Great Lakes Engineering Works, Detroit.

YEAR'S SHIP BUILDING IN THE UNITED KINGDOM

The following table shows the output, during the year 1904, of the following ship building yards in the United Kingdom, and for the purpose of comparison the tonnage launched in 1903 is also given:

	No. of ships.	Total gross tons. 1904.	Total gross tons. 1903.
Russell & Co., Port Glasgow	18	73,689	45,810
Swan, Hunter & Wigham-Richardson, Newcastle	22	73,592	66,452
W. Gray & Co., W. Hartlepool	18	57,357	39,493
W. Doxford & Sons, Sunderland	14	53,050	39,860
J. L. Thompson & Sons, Sunderland	12	44,279	27,677
Workman, Clark & Co., Belfast	12	44,272	44,738
Connell & Co., Glasgow	10	40,956	28,908
Northumberland Ship Building Co., Howdon-on-Tyne	10	40,500	34,085
Sir W. G. Armstrong, Whitworth & Co., Newcastle	12	37,147	48,740
Barclay, Curle & Co., Glasgow	10	36,408	20,944
Harland & Wolff, Belfast	6	31,842	110,463
Ropner & Son, Stockton	10	31,368	18,781
John Readhead & Sons, S. Shields	8	28,275	27,775
Wm. Denny & Bros., Dumbarton	10	27,807	30,472
Furness, Withy & Co., W. Hartlepool	8	27,283	32,049
Richardson, Duck & Co., Stockton	6	25,308	19,245
Sir Raylton Dixon & Co., Middlesbro	7	23,787	20,407
John Brown & Co., Clydebank	2	23,150	55,152
Short Bros., Sunderland	7	22,202	25,007
Palmers Ship Building Co., Jarrow	8	21,985	22,024
D. & W. Henderson & Co., Partick	14	21,346	17,989
R. & W. Hawthorn, Leslie & Co., Ltd., Hebburn	8	20,720	14,370
Bartrum & Sons, Sunderland	6	20,715	6,763
Scott's Ship Building & Engineering Co., Greenock	7	19,721	20,198
R. Craggs & Sons, Middlesbro	6	19,179	19,400
Alex. Stephen & Sons, Govan	4	19,063	23,612
Tyne Iron Ship Building Co., Willington Quay	5	18,603	14,674
Arch. McMillan & Son, Dumbarton	6	18,048	9,353
Irvine's Ship Building Co., W. Hpool	6	17,178	13,381
John Blumer & Co., Sunderland	6	16,095	11,040
Wm. Pickersgill & Sons, Sunderland	4	15,948	11,224
A. Rodger & Co., Port Glasgow	7	15,269	17,648
John Priestman & Co., Sunderland	4	14,816	12,449
Grangemouth & Greenock Dockyard Co.	13	14,648	13,747
Craig, Taylor & Co., Stockton	7	14,535	12,014
London & Glasgow Engineering & Iron Ship Building Co., Glasgow	2	14,470	———
W. Dobson & Co., Newcastle	7	14,361	7,926
Napier & Miller, Yoker	5	14,193	14,362
Sir Jas. Laing & Sons, Sunderland	3	13,955	25,978
Vickers, Sons & Maxim, Barrow	8	13,820	42,912
Earle's Ship Building Co., Hull	6	12,223	10,973
Wm. Hamilton & Co., Port Glasgow	3	10,695	9,733
Robert Thompson & Sons, Sunderland	3	9,932	9,483
Cammel, Laird & Co., Birkenhead	5	9,800	5,038
Sunderland Ship Building Co.	5	9,150	12,735
Thames Iron Works, Canning Town	52	8,854	507
R. Stephenson & Co., Hebburn	4	8,648	17,633
Wood, Skinner & Co., Newcastle	9	8,342	4,556
Wm. Simons & Co., Renfrew	11	7,120	7,250
S. P. Austin & Son, Sunderland	4	6,880	4,842
Clyde Ship Building & Engineering Co., Port Glasgow	5	6,501	6,246
Caledon Ship Building Co., Dundee	4	6,381	10,339
Hall, Russell & Co., Aberdeen	7	6,221	3,163
Blyth Ship Building Co., Troon and Ayr	10	5,743	8,120
Caird & Co., Greenock	3	5,147	19,005
Campbeltown Ship Building Co.	3	4,976	4,509
Smith's Dock Co., N. Shields	25	4,920	4,984
Fleming & Ferguson, Paisley	10	4,880	5,829
Cook, Welton & Gemmell, Beverly	26	4,858	7,713
Mackie & Thompson, Govan	13	4,616	5,242
Osbourne, Graham & Co., Sunderland	2	3,771	3,820
Murdoch & Murray, Port Glasgow	8	3,742	1,750
Lobnitz & Co., Renfrew	17	3,643	4,534
Ritchie, Graham & Milne, Glasgow	28	3,566	1,310
A. W. Robertson & Co., Canning Tn.	15	3,520	3,369
Ferguson Bros., Port Glasgow	6	3,385	190
Caledonian Ship Building Co., Preston	10	3,200	———

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Bow, McLachlan & Co., Paisley	—	3,175	2,866
Yarrow & Co., Poplar	18	3,025	1,343
C. H. Warner & Co., Sudbrook	14	2,968	694
J. Crown & Sons, Sunderland	3	2,946	520
D. J. Dunlop & Co., Port Glasgow	1	2,930	605
Scott & Sons, Bowling	9	2,909	2,679
Ramage & Ferguson, Leith	6	2,900	5,237
John Fullerton & Co., Paisley	7	2,861	1,500
G. Rennie & Co., Greenwich	19	2,825	6,430
Cochrane & Sons, Selby	13	2,715	1,474
Robert Duncan & Co., Port Glasgow	4	2,690	1,609
George Brown & Co., Greenock	7	2,647	1,827
W. Beardmore & Co., Govan	—	2,350	10,700
Alley & MacLellan, Glasgow	15	2,145	2,608
Gerston Ship Building Co.	7	2,124	918
Richmond & Newquay Dry Docks, Appledore	14	2,089	———
J. Scarr & Son, Beverly & Howden	13	2,051	1,897
Dublin Dockyard Co.	4	1,690	605
J. Shearer & Sons, Kelvinhaugh	—	1,676	300
Goole Ship Building Co., Goole	8	1,604	3,056
J. I. Thornycroft & Co., Chiswick and Southampton	6	1,537	807
W. R. Harkness & Son, Middlesbro	2	1,436	1,367
J. P. Rennoldson & Sons, S. Shields	6	1,413	1,076
Irvine Ship Building Co.	—	1,389	1,256
Lytham Ship Building Co.	6	1,376	580
R. Williamson & Son, Workington	—	1,324	1,434
J. S. White & Co., East Cowes	25	1,165	1,486
Henry Scarr, Hessle	9	1,106	688
W. J. Yarwood, Norwich	7	933	538
Dundee Ship Builders' Co., Dundee	5	886	2,858
Wm. Chalmers & Co., Glasgow	8	856	257
A. Hall & Co., Aberdeen	4	721	1,279
J. Pimblott & Sons, Northwich	9	692	———
Gibbs & Co., Brixham	10	686	832
R. & H. Green, Blackwall	3	650	1,100
A. & J. Inglis, Pointhouse	3	621	4,301
T. Dobson & Co., Hull	2	620	1,996
Ardrossan Ship Building Co.	2	613	797
Hannah, Donald & Wilson, Paisley	—	600	70
John Reid & Co., Glasgow	2	487	2,511
Gourlay Bros. & Co., Dundee	3	480	2,466
Forrestt & Co., Wivenhoe	23	462	768
Philip & Son, Dartmouth	19	451	409
Edwards & Co., Millwall	15	445	661
Larne Ship Building Co.	—	440	380
J. T. Eltringham & Co., S. Shields	2	427	672
J. Cottingham's Trustees, Goole	3	390	290
W. Thomas & Sons, Amlwch	2	387	———
P. Macgregor & Sons, Kirkintilloch	4	268	435
Hawthorns Co., Leith	2	250	194
Fellows & Co., Gt. Yarmouth	4	245	1,028
W. C. Huntley, Hebburn	3	240	142
Simpson, Strickland & Co., Dartmouth	22	239	176
W. Fife & Son, Fairlie	7	232	194
G. & T. Smith, Rye	6	211	———
Hoople & Co., S. Shields	2	189	325
John Cran & Co., Leith	2	152	332
J. & J. Hay	2	134	64
W. White & Sons, West Cowes	6	87	74
D. M. Cumming, Glasgow	3	73	———
Dee Ship Building Co., Chester	6	69	———
R. McAllister, Dumbarton	—	65	55
Gamper & Nicholson, Gosport	1	62	308
A. Robertson, Sandbank	—	50	———
A. Munro, Ardrishaig	—	49	———

LUMBER CARRIERS' ASSOCIATION

The annual meeting of the Lumber Carriers' association was held in Detroit this week. No action was taken on the rate question, the association preferring to wait to see what the Lake Carriers would do. The following officers were elected for the year: President, Edward Hines of Chicago; first vice president, W. H. Teare of Cleveland; second vice president, J. A. Calbick of Chicago; third vice president, R. C. Brewin of Saugatuck; secretary and treasurer, H. E. Runnels. Board of managers: Messrs. F. W. Gilchrist, Henry McMorran, W. H. Teare, J. O. Nessen, H. E. Runnels, O. W. Blodgett, Edward Hines, J. A. Calbick, C. H. Prescott, Jr. W. H. Sharp, V. F. Mashek, Charles Foster, W. D. Hamilton, Sidney O. Neff, J. C. Garry, C. H. Weeks, A. R. Sinclair, R. C. Brittain, John J. Boland, E. L. Fisher, J. W. Robinson, L. S. Sullivan, A. W. Comstock, H. L. Wilton, C. W. Kotcher, C. T. Williams, J. C. Pringle, J. E. Embury and George G. Oliver.

ANNUAL MEETING LAKE CARRIERS' ASSOCIATION

The annual meeting of the Lake Carriers' association will convene in Detroit today. It will be the second meeting of the association since it became an incorporated body. During that time it has worked very well indeed. As at last year's meeting, it is likely that the principal question to come before the Lake Carriers will be the labor question. There was a disposition some time ago to eliminate this question altogether and to have owners treat wth the men aboard ship as individuals. This has already been done in the case of the Pittsburg Steamship Co. and the masters, but the engineers, while individually willing to treat with that company, were counseled not to do so by the officials of the Marine Engineers' Beneficial association. It will therefore be necessary for the Lake Carriers' association to treat with the engineers as a body. The Seamen's union, which has been holding a convention in Cleveland during the present week, has appointed a committee to meet with the Lake Carriers' association and it is likely that the season's schedule will be arranged between the executive committee of the Lake Carriers' association and the committee representing the Seamen's union. As far as can be gathered no trouble is to be anticipated in lining up for the season of 1905. The vessel owners, both as individuals and as members of the Lake Carriers' association, are disposed to be reasonable, and desire to meet labor at least half way. The full report of the doings of the Lake Carriers' association will be published in the next issue of the Review.

LENGTHENING LAKE FREIGHTERS

The fact that vessel owners appreciate the changed conditions on the great lakes, projected by the 10,000-ton carriers, is well exemplified by the fact that they are giving orders freely for the lengthening of their freighters. Contracts have already been closed for the lengthening of seven vessels and it is quite likely that additional orders will be placed for the lengthening of others before the season is over. The ship yards are therefore crowded with new work and with the extensive repairs necessitated by cutting a modern steamer amidships and inserting a 72-ft section in her. Last week Pickands, Mather & Co. of Cleveland gave an order to the American Ship Building Co. to have the barge Constitution lengthened 72 ft. She will be the first consort on the lakes to be so lengthened. The Constitution came out in 1897. When she goes into commission next spring she will be 451 ft. long and will be the longest barge on the lakes. She will be 5 ft. longer than the barge John Smeaton of the Pittsburg Steamship Co.'s fleet, but her carrying capacity will not be as great as the Smeaton's for she will have 6 ft. less beam. The work upon the Constitution will be done at the West Superior yard of the American Ship Building Co. where the steamer Victory will also be lengthened. Mr. Robert Logan, general manager of the company, is now at West Superior superintending the operations. The boats to be lengthened this winter are therefore the G. J. Grammer, S. S. Curry, City of Bangor, Sevona, L. C. Waldo, Victory and Constitution. With the exception of the Waldo which is to be lengthened at the Craig yard, Toledo, the work will all be done by the American Ship Building Co.

It is reported that Mr. R. P. Schwerin of the Pacific Mail Steamship Co., San Francisco, has said that if the government breaks the contract between the Pacific Mail Steamship Co. and the Panama railroad it would be necessary for the Pacific Mail to withdraw its steamers from the Central American trade.

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IMPORTANT MEETING OF PASSENGER LINES

A most important meeting of the steamboat passenger interests of the seaboard and great lakes was held last week in the Transportation club rooms at Buffalo to discuss the proposed changes in the rules and regulations governing the inspection of steam vessels which were recently submitted to the secretary of the Department of Commerce and Labor by the Board of Supervising Inspectors. By request Mr. Frank E. Kirby of the Detroit Ship Building Co. and Mr. Harvey D. Goulder, counsel for the Lake Carriers association, attended the meeting to explain certain portions of the new regulations which were not clear to the passenger lines. The rules were reviewed article by article and the passenger interests were surprised that they contained so little that could not be heartily approved. In point of fact they contained nothing that the passenger lines were not willing to accede to but to the lake men some of the specifications were rather indefinite and it was surmised that they were intended to apply to salt water rather than to fresh water. The proposed regulations, therefore, called for interpretation rather than opposition and Secretary Metcalf will be called upon to interpret certain of the regulations which are somewhat blind to lake interests.

The new rules standardize the equipment to be carried on board passenger ships. All the passenger lines approve of this, as it tends to simplify matters. They found, however, that in most instances the construction and equipment now used are quite up to the requirements of the proposed changes and while they are perfectly willing to purchase new equipment, according to the standard, they do not desire to discard old equipment that is now perfectly serviceable and equal to the standard. In other words, they are perfectly willing to adopt the new rules in so far as future purchases are concerned. In fact the feeling of the convention was one of satisfaction with the proposed action to standardize construction and equipment since the passenger men represented that it would simplify and render more effective their own efforts to make their ships absolutely safe.

The convention unanimously approved the action of the supervising inspectors in recommending that loose granulated cork and kapoc life preservers be discarded. The question of life preservers is one that has been a troublesome one for the passenger lines for several years, all of them having experimented with a variety of devices to the end of getting the best.

A committee consisting of T. F. Newman, general manager of the Cleveland & Buffalo Transit Co. of Cleveland; J. C. Evans, western manager of the Anchor Line of Buffalo; B. W. Parker, general manager of the White Star Line, Detroit; F. C. Reynolds, traffic manager Pere Marquette Line, Milwaukee, Wis.; C. F. Gildersleeve, general manager of the Northern Navigation Co., Collingwood, Ont.; F. C. Kruger, manager Northern Steamship Co., Buffalo; and Capt. George A. White of the Hudson River Day Line, New York, was appointed to attend the meeting of the steamship men in Washington on Monday next when the entire subject will be talked over with Secretary Metcalf of the Department of Commerce and Labor.

It is the concensus of opinion of the passenger men that the meeting in Buffalo was of the greatest educational value to them all. Steamship men from the seaboard, from the great lakes and from the western rivers attended and it was practically the first time in the history of navigation in this country that these various interests had met together. Upon the suggestion of Mr. T. F. Newman of Cleveland it was decided to make the organization a permanent affair, to be known as the Association of Passenger Steamboat Lines. Capt. George A. White of the Hudson River Day Line was elected president and Mr. W. F. Herman of the Cleveland & Buffalo Transit Co. was elected secretary and treasurer and authorized to draft the necessary by-laws by the next meeting. It is the purpose of the ne wassociation to meet in various cities so that each may become familiar with the other's method of operation.

The lines represented at the meeting were: The Anchor Line of Buffalo; Ashley & Dustin Line of Detroit; Cleveland & Buffalo Transit Co. of Cleveland; Crosby Transportation Co., Milwaukee, Wis.; Detroit & Buffalo Steamboat Co., Detroit, Mich.; Detroit & Cleveland Navigation Co., Detroit; Detroit, Belle Isle & Windsor Ferry Co., Detroit; Dominion Marine Association, Ottawa, Canada; Dunkley-Williams Co., Chicago; Goodrich Transportation Co., Chicago; Graham & Morton Line, Chicago; Hartford & New York Transportation Co., Hartford, Conn.; Hudson River Day Line, New York; Joy Steamship Co., New York; Manitou Steamship Co., Chicago, Ill.; Michigan Steamship Co., South Haven, Mich.; Mantauk Steamboat Co., New York; Northern Michigan Transportation Co., Chicago, Ill.; Northern Navigation Co., Collingwood, Ont.; Northern Steamship Co., Buffalo, N. Y.; Pere Marquette Steamship Co., Milwaukee, Wis.; Richelieu & Ontario Navigation Co., Montreal, Que.; Star-Cole Line, Detroit; Sandusky & Islands Steamboat Co., Sandusky, O.; White Star Line, Detroit, Mich.; Erie & Western Transportation Co., Buffalo; Ontario & Bay of Quinte Steamboat Co., Kingston, Ont.; Lake Michigan & Lake Superior Transportation Co., Chicago, Ill.; Citizens Steamboat Co., New York; Barry Transportation Co., Chicago; Chicago & Muskegon Transportation Co., Muskegon, Mich.; Eastern Steamship Co., Boston, Mass.; Plant Line, Boston, Mass.; Diamond Jo Line, Dubuque, Iowa; Louisville & Cincinnati Packet Co., Cincinnati, O.; Louisville & Evansville Packet Co., Louisville, Ky.; New England Navigation Co., New York; Old Colony Steamboat Co., New York; Peoples Evening Line Steamers, New York; Niagara Navigation Co., Toronto, Ont.; Merchants & Miners Transportation Co., Baltimore, Md.; Baltimore Steam Packet Co., Baltimore Md.; Champlain Transportation Co., Burlington, Vt.; Deseronto Navigation Co., Deseronto, Ont.; Hart Steamboat Line, Green Bay, Wis.; Arnold Transit Co., Mackinac Island, Mich.; and Canadian Pacific Steamship Lines, Montreal, Que.

Among the more prominent men attending the convention were Capt. G. A. White, New York; T. F. Newman, Cleveland; W. F. Herman, Cleveland; J. C. Evans, Buffalo; Charles J. Fox, Buffalo; B. W. Parker, Detroit; George W. Gardner, Cleveland; J. Y. Randall, Cleveland; F. C. Reynolds, Milwaukee, Wis.; D. C. McIntyre, Cleveland; Walter Campbell, Detroit; C. F. Gildersleeve, Kingston, Ont.; E. A. Noble, Hartford, Conn.; Capt. A. McIntyre, Chicago; Capt. D. Van Cleaf, New York; H. H. Gildersleeve, Collingwood, Ont.; F. C. Kruger, Buffalo; Capt. Gilbert Johnson, Montreal, Que.; and A. R. Lee, Detroit.

NEW STEAMER FOR CAPT. CHAS. L. HUTCHINSON

Capt. Charles L. Hutchinson of Cleveland gave a contract to the American Ship Building Co. of Cleveland last week for a 500-ft. steamer to be a duplicate of the Tomlinson steamer, Ball Brothers, lately launched at the Lorain yard of the company. The new steamer will be 500 ft. over all, 480 ft. keel, 52 ft. beam and 30 ft. deep. She will have triple-expansion engines with cylinders 22½, 36 and 60 in. diameters by 42-in. stroke, supplied with steam from two Scotch boilers 13 ft. 9 in. in diameter and 11½ ft. long fitted with Ellis & Eaves draft.

The Bertram Engine Co., Toronto, Ont., is building a government dredge, the spuds for which were supplied by John B. Smith & Sons, Toronto. The spuds are 24 by 24 and 50 ft. in length, each stick weighing about 9,000 lbs. The timber is of superior quality.

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MR. MULLEN GOES WITH M. A. HANNA & CO

Mr. Martin Mullen, who has been identified with lake coal interests for the past thirty years, has become a member of the firm of M. A. Hanna & Co. and has accordingly severed his connection with the Pittsburg Coal Co. Mr. Mullen, who had established a large business in the lake coal trade, sold his property to the Pittsburg Coal Co. in 1899 and since that time had been actively connected with the company. It was a condition of the sale to the Pittsburg Coal Co. that he should not engage in the coal business with any other firm for a period of five years. This contract has now elapsed. It might be said that Mr. Mullen has been engaged in the coal business all his life. He started with Rhodes & Co. which was succeeded by the firm of M. A. Hanna & Co. He represented a number of firms in the trade until 1887 when he organized the Mullen Coal Co. In 1891 the Cuddy-Mullen Coal Co. was formed and continued in business until 1899 when the company sold out to the Pittsburg Coal Co. Mr. Mullen has always been most progressive, and was the first of Cleveland shippers to utilize the outer harbor, establishing there the Cuddy-Mullen fast plant now operated by the Pittsburg Coal Co. It was the first dock to be established on the lake front but several others followed it since. One of the largest deals put through by Mr. Mullen was the sale of 1,000,000 tons of coal to be delivered after a period of three years to the Great Northern Railway Co. at the head of Lake Superior.

McMYLER ELECTRIC CRANES ON THE FORDNEY

The Harlan & Hollingsworth Co., Wilmington, Del., recently installed in the steamship Joseph W. Fordney an equipment of electric traveling cargo cranes designed and built by the McMyler Manufacturing Co. of Cleveland. The Joseph W. Fordney was formerly the British tramp steamer Myra, which was wrecked a few years ago on the Nova Scotia coast. The salvage of this vessel by Mr. James Reid of Sarnia, Ont., has already been related in the columns of the Review. He successfully floated the vessel after other wreckers had abandoned the case as hopeless. The Myra was taken to Cramp's, where she was practically rebuilt. She was purchased by Mr. Frank W. Gilchrist of Alpena, Mich., and American registry was granted to her under the name of Beaumont. It was not, however, without a great struggle that this registry was conferred upon her, and indeed it looked for a while as though congress would deny it. However, the fight was gallantly led by Representative Joseph W. Fordney and under his leadership was eventually successful. Mr. Gilchrist, thereupon, decided to rename the vessel Joseph W. Fordney.

The steamer was built by C. S. Swan & Hunter, Newcastle-on-Tyne, in 1901. She is constructed of steel and is 351 ft. 2 in. long, 46½ ft. beam and 30 ft. deep. She is cat-rigged, the deck house being almost up to the knightheads and serves to carry the mast head light and the ship's bell. Her main mast, 3 ft. forward of the stack, is only a derrick mast. When loading the Fordney has 5 ft. 7 in. freeboard. The Fordney recently came in at New York with a cargo of sulphur from Algiers, La., and hundreds gathered to see the electric crane system of the McMyler company in operation. The cranes are capable of lifting about 12 tons dead weight at a hoist with an expedition not hitherto attained. Their speed was not increased in any way by the weight of the load, whether it was 5 tons or 10 tons. The mechanism is simple and its working characterized by ease, dispatch and silence. When at sea the crane booms are lowered and secured like an ordinary steam derrick, so that the whole apparatus is both compact and secure, and when covered with the tarpaulins is well protected from the weather. The hatches of the Fordney extend fore and aft the entire space between the houses and are so wide as to handle anything from a locomotive to a torpedo boat without touching the hatch combings. The cranes are run on heavy steel tracks over the hatches, thereby facilitating dispatch, for as soon as one hatch is unloaded the cranes travel forward to the next. The expedition with which the Fordney was unloaded has attracted much attention in the east.

THE FIRM OF E. J. FLEMING & CO.

The old firm of P. H. Fleming & Co., Nos. 2 and 4 Sherman street, Chicago, Ill., was dissolved on Dec. 31 last. Mr. E. J. Fleming has completed all arrangements for the continuance of the vessel agency and general insurance brokerage trade with headquarters at No. 2 Sherman street, in the same building that the old firm has had quarters for a number of years past. The name of the new firm will be E. J. Fleming & Co., and its facilities will be such as to take the best possible care of its customers' interests. The new firm can be depended upon to continue the efficiency of the old one.

PERSONAL

Francis W. Belknap has been elected to succeed Charles C. Mower as treasurer of the New York Yacht Club.

Thomas C. Millard has succeeded the late Louis Wolf as president of the New York Harbor Tow Boat Co.

Mr. Charles B. Hoyt, for many years cashier in the lake freight house of the Lehigh Valley Transportation Co. at Buffalo, has been appointed agent of the company at Chicago, succeeding F. M. Gates, resigned.

J. J. H. Brown & Co., vessel agents at Buffalo, announce the taking into the firm of Jacob Obersheimer and James McAlpine, who have been clerks in the office of Brown & Co. for eight years and are well known to lake interests.

Frank D. Staples, formerly employed in the boat shop of the Portsmouth navy yard, has entered into the boat building business of Portland, Me., and has just received an order from the treasury department for ten surf boats. Mr. Staples has an excellent reputation as a boat builder.

Capt. John Truebridge has voluntarily resigned the command of the steamer Minnesota built by the Eastern Ship Building Co., New London, Conn., for the Great Northern Steamship Co., Seattle, Wash. Capt. Truebridge has retired to his home in Tacoma, Wash., for a rest. Capt. J. H. Rinder succeeds to the command of the Minnesota.

Mr. Lindon W. Bates, No. 71 Broadway, New York, who put in a bid on contract No. 4 for the construction of the Erie canal from lock 25 to deep water east end of Oneida lake at Sylvan Beach, a distance of 483 miles, is the son of Capt. W. W. Bates, former commissioner of navigation. Mr. Bates has achieved an international reputation in the design of dredging machinery.

It is announced by Mr. Morris Williams, president of the Susquehanna Coal Co., that the anthracite coal tonnage which has hitherto been sold in the west through the W. L. Scott Co., Erie, Pa.; Boyd Stickney & Co., Harrisburg, Pa., and J. Langdon & Co., Elmira, N. Y., will hereafter be sold by salaried agents of the Susquehanna Coal Co. Mr. C. L. Thompson, Erie, Pa., has been appointed general western agent of the Susquehanna Coal Co. with headquarters at Erie.

Mr. Henry A. Van Alstyne, state engineer and surveyor with headquarters at Albany, N. Y., has appointed Edmund F. Van Hoesen of Buffalo deputy state engineer and surveyor to succeed Wm. P. Judson, resigned. The resignation takes effect Feb. 1. Mr. Van Hoesen was connected with the Pennsylvania Railway Co. from 1876 to 1886. Since then he has been with the New York Central and for the past ten years has had charge of the eliminations of grade crossings in Buffalo.

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DEVOTED TO EVERYTHING AND EVERY INTEREST CONNECTED OR ASSOCIATED WITH MARINE MATTERS ON THE FACE OF THE EARTH.

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In an article recently published in the London Times Sir William Henry White, president of the British Institution of Civil Engineers and formerly chief constructor of the British navy, related some of the observations made during his recent tour in the United States. Speaking of the Carnegie Steel Co. and then passing on to ship construction in the United States he says:

As regards methods and cost of production, labor-saving appliances, and mechanical equipment, the plate and bar mills of the Carnegie works undoubtedly embody the latest and most perfect developments on both the metallurgical and mechanical sides. It is almost startling to visit a plate mill, for example, in which the possible output reaches 2,000 tons a day, and to find very few men visible, about thirty in all sufficing for the charge of furnaces and for the control of the machinery. The relatively high cost of labor, of course, favors an extreme development of labor-saving appliances; but it must be recognized that in the design and construction of machinery and in the use of electricity as the means of distributing power, American engineers have greatly distinguished themselves. They are satisfied, moreover, that under the conditions to which they are subject the utmost possible employment of mechanical power increases output as well as reduces first cost of material.

Under these conditions American steel makers probably produce ship building steel more cheaply than British manufacturers; and, personally, I am convinced that they can and do. The cost to American ship builders, however, is from 40 to 50 per cent greater than the corresponding cost of ship building steel in this country. Into the circumstances which lead to this result this is not the place to enter, but the facts appear to be established, and they are very suggestive. Evidence given before the special commission indicated, also, that the cost of labor engaged in ship building is about 40 to 50 per cent higher in the United States. The standard is fixed by the rates obtained by workers in the yards on the great lakes, and by the same trades engaged in kindred industries, and the workmen naturally decline to accept lower rates when employed on building ocean-going ships. As a result it is declared that, apart from state aid, successful competition is impossible between American and British merchant ships; and it is anticipated that some action will be taken in that direction at an early date.

Various reasons have been advanced for the higher cost of construction and operation of ships in the United States than in Britain. The real reason, however, is perfectly plain. It is because the United States is a protected country. There is no disposition to change this policy. No one wants it changed and the president in his last message did not even touch upon the question of the tariff. He evidently regarded it as settled. The protective policy has benefited every industry in the United States to which it has been extended. It is singular, however, that to the great business of shipping this policy has been withheld over a period of more than fifty years. The protective policy of the United States has proved a two-edged sword to shipping. It has influenced the standard of wages and the scale of living in the United States so that a ship costs more to build in this country than it does abroad. The American ship, therefore, represents when completed a greater investment of capital than a foreign-built ship of the same tonnage; it carries a crew whose food scale and whose wages are higher than the scale and wages which obtain on foreign ships. The result is that it is handicapped from the start. It must earn dividends upon an added capital and at the same time pay a higher rate for operation. Naturally when subjected to the competition of the world it cannot do so. There is no way whereby American ship building for the foreign trade and ship owning for that trade can become profitable industries without the extension of protective laws to this trade. The new shipping bill which has just been submitted to congress by the Merchant Marine Commission impresses us as a measure calculated to remove the handicap which is now imposed upon American shipping. It merits the support of an American congress.

The Senate Committee on naval affairs is now preparing a statement showing what has been appropriated for the maintenance of the navy department since 1883 when the new navy was projected. The amount carried in the annual appropriation bills covering this period is $791,127,123.84; appropriated to meet deficiencies, $133,912,004.03; estimated for the current year, $104,436,148.34; total, $1,029,465,276.48. These figures are especially illuminating when it is considered that practically no money whatever has been appropriated for the support of the merchant marine in the foreign trade except the beggarly sum of $998,000 per annum since 1891 for the carrying of the ocean mails. Another thing to be considered is the fact that naval vessels are being built in excess of the supply of men to man them. The navy complains of a lack of officers and men for the ships now

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in commission. The country really needs an adequate naval reserve and it cannot get it unless inducements are offered to American citizens to go to sea. The natural reserve for the navy is the merchant marine.

ELECTRIC POWER FOR ORE RAILWAYS

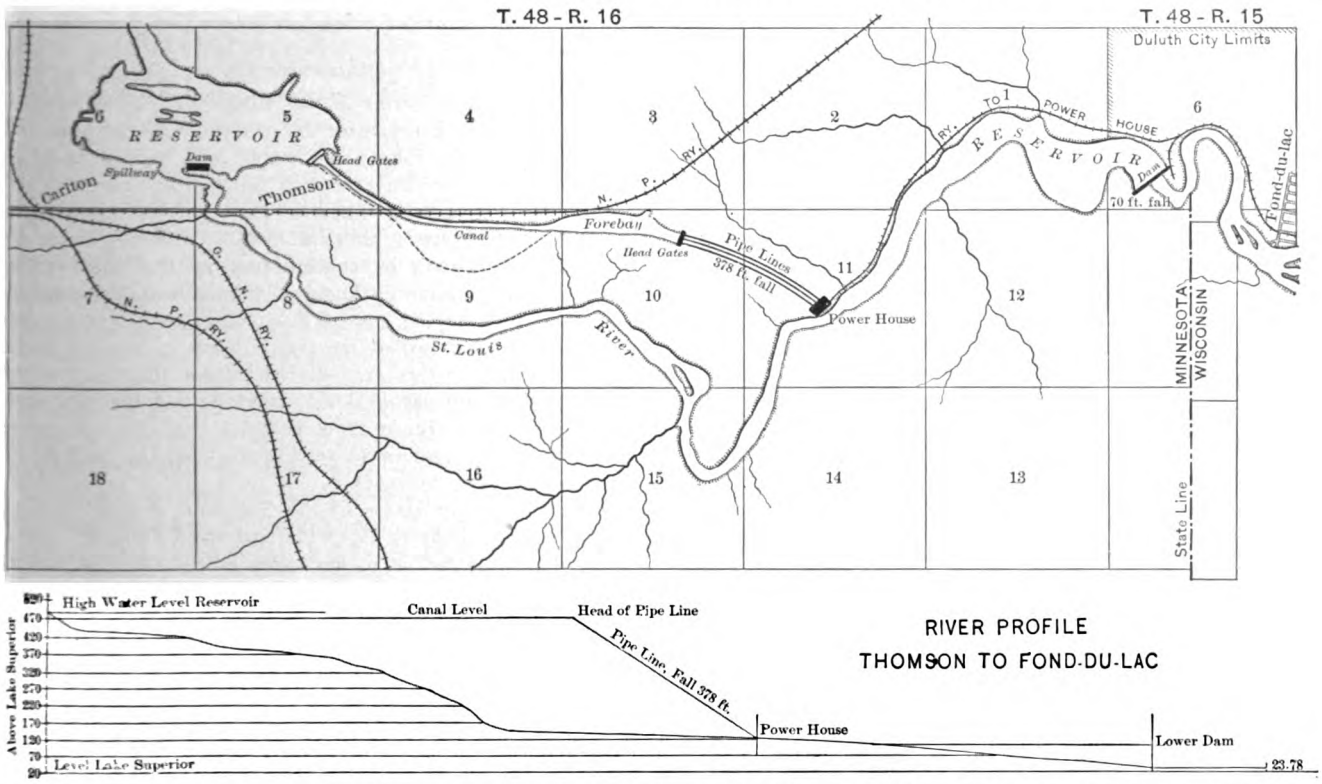
After four years of preliminary work, technical, financial and legal, the Great Northern Power Co., of Duluth, Minn., has been financed. Tucker, Anthony & Co., of Boston, and C. D. Barney & Co., of New York and Philadelphia, have underwritten the money to be required for the company's initial development, amounting to $4,000,000, and this sum is now available. A total issue of $10,000,000 in bonds is contemplated, and this will be sufficient to complete the entire proposed development of about 200,000 h. p. The initial issue of $4,000,000 has been subscribed almost twice over, in Duluth and the East. Engineers are in the field, and work in construction begins in a few days. It is proposed to have 30,000 h. p. turned on early in 1906.

This power installation is to be one of the most important in the American continent. The initial development is to be 30,000 h. p. and this is all the company proposes to erect at once, but there is water for 200,000 10-hour h. p., and the company expects to add to the first plant quite rapidly until this entire amount is provided and in use. There is demand for all the first installation now, and an important increase in manufacturing at the head of the lake, due to a low price for power, is expected to result in an increased requirement.

What may be the chief consumption of power from the works of this company is likely to be from the iron mines of northern Minnesota and for the operation, through electric locomotives of high power, of the several lines of railway that run between these mines and Lake Superior. There is on the Mesabi range alone, a gross power requirement at mines of about 40,000 h. p., and more than this in the hauling of this ore to lake ports. The United States Steel Corporation owns two of the three roads engaged in this traffic and mines about 55 percent of the ore annually taken out. Examinations have been made and plans have been submitted for the substitution of electric for steam power at the mines and the installation of electric locomotives on the railways of the corporation. It is about 70 miles from the point of power generation to most distant mines of the Mesabi. It is about 100 miles from Duluth to the mines of the Gogebic range and 125 miles to the cities of Minneapolis and St. Paul, whose power requirements are far in excess of their own water power capacity.

Duluth, fronting on Lake Superior, has at its back an elevated plateau covering many thousand square miles and consisting largely of timbered lands and swamps, well watered and excellent for water storage. This table land includes the Mesabi range, with its wealth of iron ores. As outlet for all this watershed there is only the St. Louis river and its tributaries. The main river flows about 150 miles and falls into the lake at Duluth, forming the harbor of the city and Superior. Within less than six miles from the city limits this river, in falling to its mouth, forms a series of rapids with an actual effective drop of 395 ft., or three times that of Niagara. At Duluth and Superior is a large and growing population, and power installations, exclusive of plants whose fuel is their own refuse, that amount to more than 50,000 h. p. With the mines and villages on the Mesabi and Vermillion ranges, the haul of 15,000,000 tons of ore yearly to Lake Superior, of coal back, and of other supplies, there is one of the most attractive power schemes known.

For thirty years the development of this power has been the dream of a no less sane philosopher and financier than Jay Cooke, who, up to a year or two ago, owned the water rights along the St. Louis river. His idea was for a series of ten dams in the river, using the water over and over again,



MAP SHOWING PLANS OF HYDRAULIC DEVELOPMENT AT FOND DU LAC AND HYDRO-ELECTRIC AT THOMSON, WITH RIVER PROFILE.

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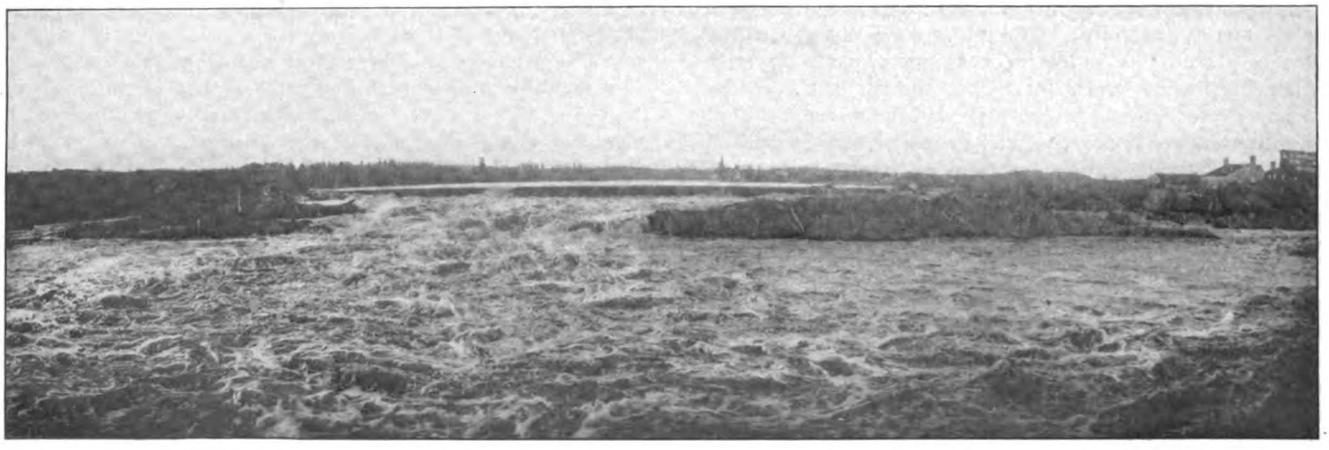
ST. LOUIS RIVER BETWEEN DAM SITE AND POWER HOUSE.

for direct hydraulic power. Then the development of electricity by water wheels and the transmission of power was not perfected. Recent advances in mechanical and electrical practice have put a different face on the method of development, but the fundamental ideas remain as they were when this northwest was in its infancy. Then the commerce of Lake Superior was only a million tons a year, instead of 35,000,000 tons as now, and then Duluth was a mere struggling village, instead of one of the three or four biggest ports for tonnage in the entire world. Five years ago the development of this power, along the lines now fixed and agreed upon, was undertaken by the Messrs. Cokefair, of New York. They were the first men to grasp and hold a plan that proved attractive to capital and that could be worked out.

F. A. Cokefair is an engineer, his father a man of affairs. The engineer saw that if the water running to waste down the St. Louis could be brought by open canal to the head of the hill above Duluth and then dropped through pipes for a distance of hundreds of feet on to water wheels, power might be generated in quantity and at a cost that would be an assurance of success. One cubic foot of water through these pipes would mean more than an electrical horse power and the average flow of the river for a series of years has been about 150,000 cu. ft. per minute. The engineer worked out the details with a competent force of hydraulic and electrical experts assisting him, and with several of the best known engineers of the country in consultation. The man of affairs interested capital, until a company had been formed including men at the head of Lake Superior of very heavy financial and business interests. In all about $300,000 has been spent already, largely in engineering, and so accurate has this work been that now, when representatives of half a dozen of the leading financial and engineering houses of the east have threshed over the plans they have found practically nothing to change, either in methods, details or estimates.

The plan of development of this power calls for three distinct improvements, two of which are to be installed at once. What is to be known as the Thomson development is for a dam and service reservoir at the village of Thomson, about 2½ miles of open canal from this reservoir to the head of a pipe line that will convey the water to a power house on the river and within three or four miles from the city limits of Duluth. Between the Thomson dam and the power house the river flows several miles and falls nearly 400 ft. Of this fall 378 ft. will be concentrated in the mile or less of the pipe line. For this Thomson development the company proposes to utilize the run-off from more than 2,000 square miles of the watershed of the river. With 25 percent of the annual rainfall of this area diverted from the river at the Thomson dam and passed down the canal and through pipes, the company can secure about 80,000 h. p., of a 42 percent load factor, or a 10-hour power. Not all of this will be installed next year, however.

Below the power house of the Thomson development the St. Louis falls about 75 ft. to the harbor of Duluth. Practically all of this fall is within three miles. At the foot of these rapids is an admirable location for a dam to impound a large water area and at this point the Fond du Lac development will be undertaken. This is to be direct hydraulic, and will generate 12,500 h. p. from water that has already been used in the pipe line. Arrangements are being made to utilize this power for pulp, paper and other mills of similar character. Paper and pulp mill engineers report that no location in the United States is so well adapted for this class



ST. LOUIS RIVER AT AND BELOW THOMSON DAM SITE.

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of operations, not only on account of an abundance of power and water, but from the proximity of raw material. It is well known that in the northeastern portion of Minnesota, along the streams forming the St. Louis drainage system and along Lake Superior near Duluth, there stands more pulpwood than in any concentrated area, of whatever size, in all the world. The Fond du Lac development will be carried forward simultaneously with the Thomson plan.

But the most interesting part of this general development will come when it is decided to improve the third system, or what is known by the company as the Duluth Heights plan. In this a fall of 740 ft. will be concentrated in steel pipe less than two miles long, and the power developed in the very center of the city of Duluth.

For this interesting development there will be a dam and storage reservoir on each of the leading tributaries of the St. Louis, four in all, at points consecutively north from Duluth and about 800 ft. above Lake Superior. A waterway utilizing natural contours will connect the lower of these with a large forebay at the crest of the hill above Duluth, and from this pipe will lead the water to a power house on the harbor front and 740 ft. lower than the forebay. These reservoirs can all be cheaply constructed, all of them cover lands that are now almost valueless, being largely swamp and marsh, and the waterway from the river to the city leads through channels that are almost entirely natural and ample for the conduct of a very large operation. The run-off from 1,300 square miles will be available for this system, and with the use of 30 percent of the mean annual rainfall a total of 105,000 h. p. with 42 percent load factor, can be relied upon.

Storage reservoirs will be required not only for the final installation but for that at Thomson. These have all been provided for and present no extraordinary engineering feats or problems. For the Thomson development there will be a dam covering 480 acres, with a draft of 15 ft. This will be merely an enlargement of a dam now in use. It will discharge into a canal 1½ miles long about half of which will be channeled in slate, the remainder of earth embankment. This canal will be 32 ft. wide on top and 14 ft. deep, will provide for a flow of 200,000 cu. ft. a minute. At the foot of the canal is a long forebay. The general design of wheels to be used is similar to that of the wheels at Niagara, with water balance and oil thrust bearings, and at first there will be two or three 12,500 h. p. wheels, the number depending on the direct hydraulic installation. There will be equivalent internal revolving generators of 7,500 k. w. each, both wheels and generators being of larger units than have ever been installed. The current will be 25-cycle 3-phase 6,600 volts and will be stepped up through a bank of three transformers of 2,400 k. w. each to 30,000 volts. This current will be transmitted over lines carrying 10,000 h. p. each, the wires carried on steel towers.

The cost of steam power varies, of course, with the size and efficiency of installation, and with many other factors entering the problem. Approximate costs of producing power per year at Duluth and Superior, with a 40 percent load factor, has been shown to be from $65 to $32 per horse power, for plants varying from 100 to 1,000 h. p. On the Mesabi range and for railways it is considerably more costly than at either of the cities. The equivalent rates established by the Great Northern Power Co., and upon which its franchises are based, vary from $33 to $23 per year, or from 12.78 to 9 mills per k. w. hours. The company will sell direct hydraulic power from Fond du Lac dam at $10 per h. p. per year, and to large consumers.

Messrs. W. A. Brackenridge, J. T. Fanning and F. O. Blackwell have been consulting engineers on this work, as a whole and in detail, and have given it their unqualified approval.

AROUND THE GREAT LAKES

Coal shipments from the port of Buffalo last year were 2,798,828 tons.

The dock of the Northwestern Fuel Co. at Duluth was damaged to the extent of $6,000 by fire last week.

The steel steamer Brazil, owned by Drake & Maytham of Buffalo, has been sold to Charles Reis of Milwaukee.

The Hamilton Steamboat Co., Hamilton, Ont., has declared a dividend of 10 per cent. for the past year the same as in former years.

Abraham Smith & Son, Algonac, Mich., report that all their berths are filled and that they have on hand all the work that they can possibly do.

The Manitowoc Dry Dock Co., Manitowoc, Wis., has been awarded a contract to build a steel dredge for Edwards Bros. of Sault Ste. Marie, Mich., at a cost of $90,000.

Libel papers have been issued on the steamers Alice Stafford and Charles H. Hackley of the Barry Transportation Co. upon a claim brought by Magoon & Kimball for $12,870 for supplies, materials and repairs.

The freight blockade at Ludington caused by the inability of the railroads to handle cars has put a temporary stop upon the cross lake ferry service. The car ferry Pere Marquette No. 15 has been temporarily put out of service.

The Empire Ship Building Co., Buffalo, has closed a contract with the Mutual Transit Co. for a steel lighter to be used in Duluth harbor to pick up freight for the vessels of the line. The lighter is to be ready for service in April.

The Dominion government has made a contract with the Marconi Wireless Telegraph Co. for the erection of two new stations on the St. Lawrence and the enlargement of all the present stations so that they can keep in constant communication with each other in directing the movement of ships.

The Buffalo branch of the Ship Masters' association of the great lakes held its annual election and the following officers were chosen: George C. Stevenson, president; James A. Madigan, first vice president; John J. Hartman, second vice president; John B. Hall, treasurer; John Perew, secretary.

Information is wanted concerning Colin McArthur, who was born on the island of Mull, Argyleshire, Scotland, emigrated to this country in the 50's, and was last heard of sailing on the lakes. Any information of him will be thankfully received by his brother Neil. Address Box 304, Delray P. O., Michigan.

At the annual meeting of the Niagara Navigation Co., held in Toronto recently, Mr. E. B. Osler was elected president and Barlow Cumberland vice-president. The net profits of the year, after paying interest on bonds, was $62,765.57, and after providing for dividends of 8 per cent there remains $14,365.57 to carry forward to profit and loss.

The license of Capt. Joseph E. Meno of St. Clair, Mich., master of the steamer City of Holland, has been revoked upon the recommendation of Rear Admiral Fields. It is stated that while Fields was inspecting the City of Holland Meno represented that the crew had a good fire drill. Rear Admiral Fields discovered that they had not been drilled at all and consequently recommended the revocation of the license.

The steamer Manhattan, wrecked on a reef 6 miles out from Munising bay on Oct. 26, 1903, is fast yielding to the elements. The Manhattan was bound down at the time with a cargo of iron ore and was seeking shelter behind Grand Island from a gale when she caught fire. She was abandoned at the time to the underwriters and scarcely anything can now be seen of the wreck.

The Buffalo lodge of the Marine Engineers' Beneficial association elected the following officers this week: Wm. Garrity, president; Frank Harringer, vice-president; Wm. McNulty, second vice-president; W. D. Blaicher, secretary and treasurer; John Davidson, Fred Hale and Frank Miller, trustees;

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William S. Brown, Irwin Marshall and W. D. Blaicher, delegates to national convention.

The annual meeting of Detroit lodge No. 3 of the Marine Engineers' Beneficial association was held last week and the following officers were elected: George M. Milne, past president; Fred W. Robinson, president; W. H. Dungan, vice president; David Humphrey, recording secretary; A. L. Jones, corresponding secretary and treasurer; Frank Kenyon, financial secretary; A. L. Jones, Wm. F. Taylor and P. J. O'Connor, representatives to national convention at Washington; George Wilson, trustee.

Detroit Lodge No. 7 of the Ship Masters' association held its annual meeting last week and elected the following officers: Capt. Murray G. McIntosh, president; Norman McGuire, vice president; William McAlpine, second vice president; A. J. McKay, treasurer; Leonard P. Anderholt, secretary; Walter E. Campbell, trustee, to succeed himself; A. J. McKay, delegate to grand lodge; M. G. McIntosh, alternate; J. P. Young, chaplain; A. H. Shafer, marshal; Thomas Fitzsimmons, warden; E. P. Stevens, sentinel.

Considerable damage has been done to vessels at Milwaukee by the strong currents created by recent storms. The steamer Malietoa parted her mooring lines and struck the dock with enough force to do considerable damage. The Christopher was also torn loose and was later taken to a dock further up the river. After breaking away the steamer Fitch crashed into the steamer Fred Pabst and the steamer George Presley was so badly battered by pounding against the wharf that she was taken to dry dock for repairs. At Sheboygan the new pier at the mouth of the river was weakened, the poles and riprapping being carried away.

Judge Hazel of Buffalo has confirmed the decision of the New York appraisers that dockage may not be charged along with duty on material used when a boat is repaired at a foreign port. The decision follows the application of the collector of customs at Rochester for a review of the decision made by the New York appraisers and requires the collector to return back dockage charges amounting to several hundred dollars. The three boats on which the charges were made belong to the George Hall Coal Co. and were repaired at Kingston, Ont. When they arrived at the port of Rochester the collector of customs charged duty on the material used in repairing and also a percentage of the amount of charges used in docking the boats. When the case was brought to the board of appraisers they decided that the dockage charges should be taken out.

NEW HYDRAULIC SUCTION DREDGE

The Polson Iron Works, Toronto, Ont., is building a hydraulic suction dredge for the Dominion government which is intended for service on the St. Lawrence channel between Montreal and Quebec. The dredge is somewhat similar to the J. Israel Tarte, built by the Polson Iron Works in 1902. The principal dimensions are: Length over all, 127 ft.; breadth, 32 ft.; depth at side, 9 ft.; draught, 5 ft. The hull will be of scow model, with square bow and rake stern, for the purpose of towing easily. It is to be constructed of mild steel, divided into bulkheads, and fitted with bunkers to have a capacity of 100 tons of coal. The main deck will be of 3 by 4-in. British Columbia pine; the upper deck of 2-in. British Columbia pine; and there will also be a light shade deck over the hoisting engine. A cabin for officers and crew will be provided; it will be steam heated. Two boats are also to be supplied with the dredge.

The machinery will consist of a direct acting, inverted, triple-compound, three crank, surface condensing engine having cylinders 14, 22 and 36 in. diameter by 21 in. stroke, and built for a working pressure of 160 lbs. a square inch, and is calculated to develop 600 I. H. P., when running at 190 revolutions a minute. The main dredging pump will be a centrifugal one, with the suction and discharge pipes 24 in. in diameter; and the feed and bilge pumps will consist of two independent horizontal, duplex outside packed plunger pumps 7¼ by 4½ by 10 in. The hoisting engine for raising and lowering the suction pipe and swinging the boom will be located on the main deck forward, and will be a 10 by 12 in., two-cylinder, double acting, independent type engine, with link motion to allow operation in either direction. The steel boom for raising and lowering the suction pipe will be located at the suction end of the dredge, and will be about 65 ft. in length. The suction pipe will have an internal diameter of 24 in., and will be fitted with a cutter head at the outer end. To excavate the material there will be a rotary steel cutter. The steel head of this will be of suitable shape, and will have attached to it a renewable steel block of such a shape that it will convey the material taken from the bed of the river into the pipe. The outside diameter of the head is to be large enough to enclose the whole of the mouth of the pipe. This head will be driven by a steel shaft carried along the whole length of the pipe, and receiving its power from a separate engine, by suitable steel gearing. The engine, to supply this power will be a two-cylinder, double acting, horizontal engine, 12 by 12 in. stroke, arranged to run in one direction only. The discharge pipe will also be 24 in. in diameter, and will be arranged for discharging the material into scows. The capstans will be operated by two 6 by 8 in. double acting engines, which are to be located on the main deck forward of the hoisting engine. Steam will be supplied to the various engines by two marine return tubular boilers, allowed a working pressure of 160 lbs. to the square inch. They will be 12 by 12 ft. 6 in., and will have three furnaces, each 35 in. diameter, and a grate surface in each boiler of 48 sq. ft. There will be two smoke stacks, each 42 ft. in height from center of boiler.

NEW STEAMER FOR SANTA FE RAILWAY

The Santa Fe Railway Co. has contracted for the construction of a three-decked steamer to be used in transporting the fruit of the Sacramento River district to San Francisco. The new boat will be equipped with powerful engines capable of a speed of 18 knots. She will burn oil. Her length is to be 175 ft., beam 48 ft. and depth 12 ft. She will have comfortable accommodations for passengers and the best appliances for handling and stowing freight.

The contract for constructing the hull has been awarded to C. T. Foster of San Francisco. C. H. Evans & Co. will build the high-pressure engines, with cylinders 20 in. in diameter and with a stroke of 84 in. The craft will be a stern-wheeler and will cost about $52,000.

OBITUARY

Mr. Wm. Gokey, senior member of the firm of Wm. Gokey & Son, engaged in the dry dock and ship repair trade at New York, died at his home No. 669 Tenth street, Brooklyn, on Dec. 28, from an attack of neuralgia of the heart. Mr. Gokey had not previously been ill but was in fact hale and hearty and his death was a great shock. He was born in Lawrence county, New York, but moved to Jersey City upon obtaining his majority. He had been engaged in ship repair work for a great many years, taking up the present site occupied by the firm at Erie Basin in 1891.

Maj. Richard S. Cullem, marine corps, retired, died at his home in West Philadelphia last week. He entered the service as an acting midshipman in 1854 and served through the civil war. Maj. Cullem was the author of several interesting books dealing with military affairs.

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WINTER MOORING LIST OF LAKE VESSELS

Name of Vessel.	Name and Address of Managing Owner.
ALGONAC, MICH.	
Schr Arenac	Comstock & Sinclair, Duluth.
Str Flint, O. T.	Comstock & Sinclair, Duluth.
Schr Houghton, Geo. G.	L. S. Sullivan, Toledo, O.
Str Ida E.	Charles Longsby, Mt. Clemens, Mich. Huron, Mich.
Schr. Interlaken	Comstock & Sinclair, Duluth.
Str Langell, S.	Comstock & Sinclair, Duluth.
Bge Law, Lizzie A.	Ohio Cooperage Transp. Co., Cleveland.
Str Monohansett	Ohio Cooperage Transp. Co., Cleveland.
Schr Moore, W. K.	Comstock & Sinclair, Duluth.
Str Uganda	Edward Mehl, Erie, Pa.
Str Wyoming	Red Star Line, Buffalo.
Str Wyoming	Pt. Huron & Duluth S. S. Co., Pt.
ALPENA, MICH.	
Bge Flint, Sam	F. W. Gilchrist, Cleveland.
Str Hall, S. C.	F. W. Gilchrist, Cleveland.
Bge Mason, Nellie	F. W. Gilchrist, Cleveland.
Bge McVea, E. J.	M. Sicken, Marine City, Mich.
Tug Owen, John	F. W. Gilchrist, Cleveland.
Tug Ralph	F. W. Gilchrist, Cleveland.
AMHERSTBURG, ONT.	
Tug Christianson	M. E. Sickelsteel, Detroit, Mich.
Tug Florence	M. E. Sickelsteel, Detroit, Mich.
Ltr. L. S. Hammond	M. E. Sickelsteel, Detroit, Mich.
Tug Home Rule	M. E. Sickelsteel, Detroit, Mich.
ASHLAND, WIS.	
Schr Barlum, John J.	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
ASHTABULA, O.	
Str Andaste	Cleveland Cliffs Iron Co., Cleveland.
Tug Chase, Stephen	Geo. Owen, Ashtabula, O.
Str Choctaw	Cleveland Cliffs Iron Co., Cleveland.
Str Eads	Pittsburg Steamship Co., Cleveland.
Str. Flagg, Geo. A.	Calumet Trans. Co. (D. R. Hanna), Cleveland.
Str German	Pittsburg Steamship Co., Cleveland.
Bge Ketchum, V. H.	Frank Seither, Cleveland.
Str Linn	Pittsburg Steamship Co., Cleveland.
Schr. Montezuma	James Davidson, W. Bay City, Mich.
Str Mitchell, Alfred	Lakeside Steamship Co., Duluth.
Str McDougall	Pittsburg Steamship Co., Cleveland.
Str Maritana	Pittsburg Steamship Co., Cleveland.
Fuel Scow Roser, Geo. B.	W. H. Havens, Ashtabula, O.
Tug Smith, J. E.	Geo. Owen, Ashtabula, O.
Bge Thompson, A. W.	Calumet Trans. Co. (D. R. Hanna), Cleveland.
Str Warner, R. S.	Calumet Trans. Co. (D. R. Hanna), Cleveland.
Schr Warriner, S. D.	Calumet Trans. Co. (D. R. Hanna), Cleveland.
BAY CITY, MICH.	
Str Bermuda	James Davidson, W. Bay City, Mich.
Bge Brainard, Kate	W. E. Donely, Saginaw, Mich.
Schr Delaware	O. W. Blodgett, Bay City, Mich.
Bge Fillmore, C. J.	Wm. E. Pierce, W. Bay City, Mich.
Schr Grampian	James Davidson, W. Bay City, Mich.
Bge Jackson, G. K.	Geo. D. Jackson, Bay City, Mich.
Schr Jenness, B. W.	O. W. Blodgett, Bay City, Mich.
Str Kenyo	H. N. Loud, Au Sable, Mich.
Str Maddon, Lizzie	M. J. Lynn, Bay City, Mich.
Str Myron	O. W. Blodgett, Bay City, Mich.
Str Ogemaw	Wm. E. Pierce, W. Bay City, Mich.
Str Peshtigo	F. B. Chesbrough, Emerson, Mich.
Schr Peshtigo	O. W. Blodgett, Bay City, Mich.
BAYFIELD, WIS.	
Str Barker	Booth & Co., Chicago.
BENTON HARBOR, MICH.	
Str Argo	Graham & Morton Trans. Co., Chicago.
Tug Bertie	Graham & Morton Trans. Co., Chicago.
Str City of Chicago	Graham & Morton Trans. Co., Chicago.
Str City of Benton Harbor	Graham & Morton Trans. Co., Chicago.
Str. Holland	Graham & Morton Trans. Co., Chicago.
Str. Puritan	Graham & Morton Trans. Co., Chicago.
BOUCHERVILLE, P. Q.	
Str. Boucherville	Richelieu & Ontario Nav. Co., Montreal.
Str. Longueuil	Richelieu & Ontario Nav. Co., Montreal.
BUFFALO, N. Y.	
Str. Alcona	John J. Boland & Co., Buffalo.
Str. Alcona	August Jean, Buffalo.
Bge. Aloha	Holland & Graves, Buffalo.
Bge. Ashland	James Corrigan, Cleveland.
Str. Auburn	Western Transit Co., Buffalo.
Str. Australia	James Corrigan, Cleveland.
Str. Binghampton	Union Steamboat Line, Buffalo.
Bge. Blaine, Jas. G.	Walter K. Fullum, Buffalo.
Str. Boston	Western Transit Co., Buffalo.
Str. Bradley, C. H.	O. W. Blodgett, Bay City, Mich.
Str. Brown, Harvey H.	Northwestern Trans. Co., Detroit.
Str. Brown, W. W.	U. S. Transp. Co., Cleveland.
Str. Buffalo	Western Transit Co., Buffalo.
Str. Burton, R. A.	A. J. Halloway, Buffalo, N. Y.
Str. Caledonia	James Corrigan, Cleveland.
Str. Carnegie, Andrew	The Wilson Transit Co., Buffalo.
Str. Case	Gilchrist Transp. Co., Cleveland.
Str. Chemung	Union Steamboat Line, Buffalo.
Str. Chili	Mr. Drake, Buffalo.
Str. China	Anchor Line, Buffalo.
Str. City of Genoa	Gilchrist Transp. Co., Cleveland.
Str. City of Paris	Edward Smith, Buffalo.
Str. City of Paris	McGraw Trans. Co., Bay City, Mich.
Str. Clarion	Anchor Line, Buffalo.
Str. Codorus	Anchor Line, Buffalo.
Str. Colonel	Alex. McVittie, Detroit.
Str. Colonial	Gilchrist Transp. Co., Cleveland.
Str. Commodore	Western Transit Co., Buffalo.
Str. Conemaugh	Anchor Line, Buffalo.
Str. Conestoga	Anchor Line, Buffalo.
Str. Cormorant	Edw. Hines Lumber Co., Chicago.
Str. Cranage, Thos.	McGraw Trans. Co., Bay City, Mich.
Str. Cranage, Thos.	Edward Smith, Buffalo.
Str. Delaware	Anchor Line, Buffalo.
Str. Duluth	Western Transit Co., Buffalo.
Str. England, R. W.	England Transit Co., Cleveland.
Str. Etruria	Henry A. Hawgood, Cleveland.
Str. Flower, R. P.	Milwaukee Steamship Co., Milwaukee
Bge. Francomb, Jno. A.	Holland & Graves, Buffalo.
Bge. Galatea	Edw. Hines Lumber Co., Chicago.
Str. Gilchrist	Gilchrist Transp. Co., Cleveland.
Str. I. G. Gilchrist	Gilchrist Transp. Co., Cleveland.
Str. Gladstone	M. A. Bradley, Cleveland.
Schr. Goshawk	O. W. Blodgett, Bay City, Mich.
Str. Gratwick, W. H.	U. S. Transp. Co., Cleveland.
Str. Grover, M. B.	M. A. Bradley, Cleveland.
Str. Hawgood, H. B.	Henry A. Hawgood, Cleveland.
Str. Helena	Gilchrist Transp. Co., Cleveland.
Bge. Helvetia	Edw. Hines Lumber Co., Chicago.
Str. Hesper	M. A. Bradley, Cleveland.
Str. Holmes, E. F.	W. A. Hawgood & Co., Cleveland.
Str. Huron	R. R. Rhodes, Cleveland.
Str. Huron	Minn., St. Paul & Buffalo S. S. Co., Buffalo.
Str. India	Anchor Line, Buffalo.
Str. Iosco	W. A. Hawgood & Co., Cleveland.
Str. Japan	Anchor Line, Buffalo.
Schr. Jeanette, Olive	W. A. Hawgood & Co., Cleveland.
Str. Jenks, J. M.	W. A. Hawgood & Co., Cleveland.
Str. Juniata	Anchor Line, Buffalo.
Str. Jupiter	Gilchrist Transp. Co., Cleveland.
Str. Kearsarge	Pickands, Mather & Co., Cleveland.
Str. Kensington	G. A. Tomlinson, Duluth.
Str. Kensington	F. B. Chesbrough, Emerson, Mich.
Str. Lackawanna	Lake Transit Co., Buffalo.
Str. Lackawanna	Minn., St. Paul & Buffalo S. S. Co., Buffalo.

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Name of Vessel.	Name and Address of Managing Owner.
Str. Leonard, G. B.	U. S. Transp. Co., Cleveland.
Str. Luzon	E. D. Carter, Erie, Pa.
Str. Lycoming	Anchor Line, Buffalo.
Str. Mack, W. S.	Mack Steamship Co., Cleveland.
Str. Martin Mullen	Hutchinson & Co., Cleveland.
Str. Maryland	Inter-ocean Nav. Co., D Vance & Co., Milwaukee.
Str. Maytham, Thos.	Gilchrist Transp. Co., Cleveland.
Str. Mauch Chunk	Lehigh Valley Trans. Co., Buffalo.
Schr. McGill, C. J.	Thos. M. Ryan, Buffalo.
Bge. Minch, Sophia	Capt. Jas. Sheehan, Detroit.
Bge. Mingoe	Holland & Graves, Buffalo.
Str. Minneapolis	R. R. Rhodes, Cleveland.
Str. Minneapolis	Minn., St. Paul & Buffalo S. S. Co., Buffalo.
Str. Mohawk	Western Transit Co., Buffalo.
Str. Mohegan	Holland & Graves, Buffalo.
Str. Neptune	Gilchrist Transp. Co., Cleveland.
Str. New York	Union Steamboat Line, Buffalo.
Str. Nicaragua	James Davidson, W. Bay City, Mich.
Str. Nicolas, I. W.	Minch & Nicholas Transit Co., Cleveland.
Str. Northern King	Mutual Transit Co., Buffalo.
Str. Northern Light	Mutual Transit Co., Buffalo.
Str. Northern Queen	Mutual Transit Co., Buffalo.
Str. North Land	Northern S. S. Co., Buffalo.
Str. North Star	Mutual Transit Co., Buffalo.
Str. North West	Northern S. S. Co., Buffalo.
Str. Northwind	Mutual Transit Co., Buffalo.
Str. Nottingham, Wm.	U. S. Transp. Co., Cleveland.
Str. Nyanza	James McBrier, Erie, Pa.
Str. Nye, H. B.	W. A. Hawgood & Co., Cleveland.
Schr. Ogarita	O. W. Blodgett, Bay City, Mich.
Str. Oglebay	Gilchrist Transp. Co., Cleveland.
Str. Oliver, Henry W.	The Wilson Transit Co., Buffalo.
Str. Onoko	Minch & Nicholas Transit Co., Cleveland.
Str. Orinoco	James Davidson, W. Bay City, Mich.
Str. Oscoda	Edw. Hines Lumber Co., Chicago.
Schr. Paisley	James Davidson, W. Bay City, Mich.
Str. Panay	E. D. Carter, Erie, Pa.
Str. Pasadena	M. A. Bradley, Cleveland.
Str. Peck, E. M.	Calumet Trans. Co., Milwaukee.
Str. Pickands, H. S.	Teagan Bros., Detroit.
Str. Pratt, Pascal P.	Mack Steamship Co., Cleveland.
Str. Progress	James Corrigan, Cleveland.
Str. Ramapo	Union Steamboat Line, Buffalo.
Str. Ranney, R. P.	M. A. Bradley, Cleveland.
Str. Ravenscraig	R. J. Dunham, Chicago.
Schr. Redington, Nellie.	O. W. Blodgett, Bay City, Mich.
Str. Rees, W. D.	The Wilson Transit Co., Buffalo.
Str. Rhodes, Wm. Castle.	R. R. Rhodes, Cleveland.
Str. Rhodes, Wm. Castle.	Minn., St. Paul & Buffalo S. S. Co., Buffalo.
Str. Rochester	Union Steamboat Line, Buffalo.
Str. Rome	Western Transit Co., Buffalo.
Str. Samona	Teagan Bros., Detroit.
Str. Saranac	Lehigh Valley Trans. Co., Buffalo.
Str. Saturn	Gilchrist Transp. Co., Cleveland.
Str. Saxona	G. A. Tomlinson, Duluth.
Str. Schuck, R. E.	Gilchrist Transp. Co., Cleveland.
Str. Senator	Alex. McVittie, Detroit.
Str. Seneca	Lehigh Valley Trans. Co., Buffalo.
Str. Sevona	James McBrier, Erie, Pa.
Str. Sill, H. S.	Gilchrist Transp. Co., Cleveland.
Str. Smith, B. Lyman.	U. S. Transp. Co., Cleveland.
Str. Smith, Hurlbut W.	U. S. Transp. Co., Cleveland.
Str. Smith, L. C.	U. S. Transp. Co., Cleveland.
Str. Smith, Monroe C.	U. S. Transp. Co., Cleveland.
Str. Smith, Wilbert L.	U. S. Transp. Co., Cleveland.
Str. Sonora	G. A. Tomlinson, Duluth.
Str. St. Paul	G. A. Tomlinson, Duluth.
Str. St. Paul	Minn., St. Paul & Buffalo S. S. Co., Buffalo.
Str. Starrucca	Union Steamboat Line, Buffalo.
Str. Syracuse	Western Transit Co., Buffalo.
Str. Taylor, Moses	Mitchell & Co., Cleveland.
Str. Toltec	Mgr. Marine Transit Co., Marine City, Mich.
Str. Troy	Western Transit Co., Buffalo.
Str. Tuscarora	Lehigh Valley Trans. Co., Buffalo.
Str. Umbria	Henry A. Hawgood, Cleveland.
Str. Uranus	Gilchrist Transp. Co., Cleveland.
Str. Utica	Western Transit Co., Buffalo.
Str. Vance, F. L.	Milwaukee Steamship Co., Milwaukee
Str. Vega	Gilchrist Transp. Co., Cleveland.
Str. Venus	Gilchrist Transp. Co., Cleveland.
Str. Viking	F. W. Gilchrist, Alpena, Mich.
Schr. Vinland	F. W. Gilchrist, Alpena, Mich.
Str. Walker, P. G.	Gilchrist Transp. Co., Cleveland.
Bge. Warmington, G. H.	Jerry McCarthy, Buffalo.
Str. Wells, F. B.	Peavey Steamship Co., Duluth.
Str. Whitney, D. M.	Gilchrist Transp. Co., Cleveland.
Str. Wilkinson, H. S.	U. S. Transp. Co., Cleveland.
Bge. Wilson, Annabell.	Holland & Graves, Buffalo.
Str. Wisconsin	Henry A. Hawgood, Cleveland.
Str. Wolf, W. H.	West Division Steamship Co., Chicago.
Str. Wissahickon	Anchor Line, Buffalo.
Str. Yonkers	Western Transit Co., Buffalo.
Str. Yosemite	R. R. Rhodes, Cleveland.
Bge. Zapotec	Mgr. Marine Transit Co., Marine City, Mich.
Str. Zillah	O. W. Blodgett, Bay City, Mich.
CHARLEVOIX, MICH.	
Str. Pine Lake	Charlevoix Lumber Co., Charlevoix, Mich.
CHARLOTTE, N. Y.	
Str. Iron Age	James Corrigan, Cleveland.
Bge. Page, M. W.	James Corrigan, Cleveland.
CHATHAM, ONT.	
Bge. Juno	W. J. Pulling, Windsor, Ont.
Bge. Spademan	M. Sicken, Marine City, Mich.
CHICAGO, ILL.	
Str. Armour, Philip D.	Arthur C. Helm, Chicago.
Str. Bethlehem	Lehigh Valley Trans. Co., Buffalo.
Str. Black Rock	R. J. Dunham, Chicago.
Schr. Brown, Belle.	Wm. Mueller, Chicago.
Schr. Butcher Boy.	Wm. Mueller, Chicago.
Str. Campbell, Gordon.	W. F. Carroll, Ashland Blk., Chicago.
Schr. Campbell, Ralph.	Louis F. Dreiske & Co., Chicago.
Str. Chicago	Western Transit Co., Buffalo.
Bge. City of Chicago.	Edw. Hines Lumber Co., Chicago.
Str. City of London.	R. J. Dunham, Chicago.
Str. City of Traverse.	Lake Mich. & Lake Sup. Trans. Co., Chicago.
Bge. Connelly Bros.	J. A. Calbick & Co., Chicago.
Str. Cuba	Red Star Line, Buffalo.
Bge. Delta	Edw. Hines Lumber Co., Chicago.
Str. Dewey	Howard Trans. Co., Chicago.
Str. Egan, Wiley M.	Arthur C. Helm, Chicago.
Str. Frontenac	People's Transit Co., Chicago.
Str. Fitzgerald, R. P.	Arthur C. Helm, Chicago.
Str. Foster, Parks.	J. G. Keith & Co., Chicago.
Bge. Foster, S. H.	J. A. Calbick & Co., Chicago.
Bge. Fryer, R. L.	J. A. Calbick & Co., Chicago.
Schr. Hale, O. J.	Howard Trans. Co., Chicago.
Bge. Halsted	J. A. Calbick & Co., Chicago.
Str. Hand, C. C.	Gilchrist Transp. Co., Cleveland.
Bge. Harold	J. A. Calbick & Co., Chicago.
Str. Kalkaska	J. A. Calbick & Co., Chicago.
Str. Lansing	Gilchrist Transp. Co., Cleveland.
Str. Lehigh	Anchor Line, Buffalo.
Bge. Leighton, F. C.	Mich., Ind. & Ill. Line, Chicago.
Str. Lewiston	John Green, Chicago.
Str. Majestic	T. Hurley, Detroit.
Bge. Marvin, Selden E.	Edw. Hines Lumber Co., Chicago.
Str. McWilliams, J. J.	Mitchell & Co., Cleveland.
Bge. Middlesex	J. A. Calbick & Co., Chicago.
Str. Milwaukee	Western Transit Co., Buffalo.
Schr. Minerva	Wm. Schlosser, Milwaukee.
Str. Morley, W. B.	Wallace & Cunningham Transit Co., Dearborn (Wayne Co.), Mich.
Schr. Mott, Richard.	Wm. Mueller, Chicago.
Str. Mueller	Wm. Mueller, Chicago.
Str. Neshoto	Gilchrist Transp. Co., Cleveland.
Str. Nessen, N. J.	J. O. Nessen, Manistee, Mich.
Str. New Orleans.	Capt. J. B. Hall, Buffalo.
Str. Niko	John J. Warde, Chicago.
Str. Normandie	Mich., Ind. & Ill. Line, Chicago.
Bge. Norris, Alice B.	Edw. Hines Lumber Co., Chicago.
Bge. Oak Leaf.	J. A. Calbick & Co., Chicago.
Str. Oregon	J. A. Calbick & Co., Chicago.
Str. Osceola	Lake Mich. & Lake Sup. Trans. Co., Chicago.
Str. Owego	Union Steamboat Line, Buffalo.
Str. Pahlow, Louis.	Edw. Hines Lumber Co., Chicago.
Str. Palmer	Wm. Livingstone, Detroit.
Str. Panther	C. W. Elphicke, Chicago.

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Name of Vessel.	Name and Address of Managing Owner.
Str. Parnell, C. S.	M. J. Cummings, Oswego, N. Y.
Str. Peerless	Lake Mich. & Lake Sup. Trans. Co., Chicago.
Bge. Peterson, Annie M.	John J. Warde, Chicago.
Str. Phenix	C. W. Elphicke, Chicago.
Str. Phenix	J. J. Rardon, Chicago.
Str. Plankington, Jno.	Arthur C. Helm, Chicago.
Str. Prentice, Jas. H.	J. A. Calbick & Co., Chicago.
Str. Ralph, P. J.	J. A. Calbick & Co., Chicago.
Str. Rend, W. P.	C. W. Elphicke, Chicago.
Str. Rhodes, R. R.	Gilchrist Transp. Co., Cleveland.
S. Bge. Sawyer, Philetus.	South Side Lumber Co., Chicago.
Str. Susquehanna	Anchor Line, Buffalo.
Str. Thompson, Emma E.	W. N. Kelley, Travers City, Mich.
Str. Threebrothers	James A. White, N. Tonawanda, N.Y.
Str. Tioga	Union Steamboat Line, Buffalo.
Str. G. Tower	Gilchrist Transp. Co., Cleveland.
Str. Vermillion	Gilchrist Transp. Co., Cleveland.
Str. Volunteer	Gilchrist Transp. Co., Cleveland.
Str. Whitaker, Byron	Byron Whitaker, Detroit.
Str. Wiehe, Trude R.	Edw. Hines Lumber Co., Chicago.
Str. Wilkesbarre	Lehigh Valley Trans. Co., Buffalo.
Str. Wright, A. P.	Gilchrist Transp. Co., Cleveland.

CLEVELAND.

Str. Admiral	M. B. McMillan, Detroit.
Str. Albright, John J.	Mitchell & Co., Cleveland.
Bge. Allegheny	E. T. Carrington, Bay City, Mich.
Str. Angeline	Presque Isle Trans. Co., Cleveland.
Str. Argo	Argo Steamship Co., Cleveland.
Str. Arizona	Gray Trans. Co., Cleveland.
Bge. Baldwin, N. P.	L. P. & J. A. Smith Co., Cleveland.
Str. Beatty, Charles.	The Volunteer Transit Co., Cleveland.
Str. Bessemer	Pittsburg Steamship Co., Cleveland.
Str. Boyce, I. J.	Kelley Island Lime & Transp. Co., Cleveland.
Str. Boyce, Mary H.	F. W. Smith, Mgr. Calumet Trans. Co., Milwaukee.
Schr. Brightie	O. W. Blodgett, Bay City, Mich.
Str. Briton	Pittsburg Steamship Co., Cleveland.
Str. Cadillac	Cleveland Cliffs Iron Co., Cleveland.
Str. Castalia	Brown Steamship Co., Cleveland.
Str. Centurion	Hopkins Steamship Co., Cleveland.
Schr. Chattanooga	Cleveland Cliffs Iron Co., Cleveland.
Bge. Chickamauga	W. C. Richardson, Cleveland.
Schr. Chieftain	Jas. Davidson, West Bay City, Mich.
Str. Chisholm, A. S., Jr.	Kelley Island Lime & Transp. Co., Cleveland.
Bge. Cobb, Ahira	M. A. Bradley, Cleveland.
Str. Coffinberry, H. D.	Eugene M. Carleton, Cleveland.
Bge. Constitution	L. P. & J. A. Smith Co., Cleveland.
Str. Corona	Pittsburg Steamship Co., Cleveland.
Str. Corsica	Pittsburg Steamship Co., Cleveland.
Str. Cort	Pittsburg Steamship Co., Cleveland.
Str. Crerar, John	Great Lakes & St. Lawrence Trans. Co., Duluth.
Str. Curry, S. S.	Henry A. Hawgood, Cleveland.
Str. Desmond	Kelley Island Lime & Transp. Co., Cleveland.
Str. Dobbins	Argo Steamship Co., Cleveland.
Str. Elphicke, C. W.	Gilchrist Transp. Co., Cleveland.
Str. Ericsson	Pittsburg Steamship Co., Cleveland.
Str. Falcon	Cleveland Cliffs Iron Co., Cleveland.
Str. Fay, J. S.	M. A. Bradley, Cleveland.
Str. Frontenac	Cleveland Cliffs Iron Co., Cleveland.
Bge. Georger, F. A.	Gilchrist Transp. Co., Cleveland.
Str. Gogebic	Henry McMoran, Pt. Huron, Mich.
Str. Gowan, A. Y.	Kelley Island Lime & Transp. Co., Cleveland.
Str. Grammer, G. J.	Seither Transit Co., Cleveland.
Schr. Granada	Jas. Davidson, West Bay City, Mich.
Bge. Grandy, Wm.	L. P. & J. A. Smith Co., Cleveland.
Str. Hanna, M. A.	Mitchell & Co., Cleveland.
Bge. Hattie	Saginaw Bay Trans. Co., Cleveland.
Str. Italia	James Corrigan, Cleveland.
Str. Iron King	W. C. Richardson, Cleveland.
Str. Jones	Argo Steamship Co., Cleveland.
Str. Kaliyuga	St. Clair Steamship Co., Cleveland.
Str. Kelley, Fred.	M. A. Bradley, Cleveland.
Bge. Kingfisher	Lake Shore Saw Mill & Lumber Co., Cleveland.
Str. Lindsay, A. G.	S. W. Transit Co., Cleveland.
Str. Louisiana	F. M. Osborne, Cleveland.
Bge. Magna	Pittsburg Steamship Co., Cleveland.
Bge. Magnetic	Gilchrist Transp. Co., Cleveland.
Str. Masaba	Pittsburg Steamship Co., Cleveland.
Bge. Maitland, A.	Franklin Trans. Co., (D. R. Hanna), Cleveland.
Str. McGregor, Mary A.	Proctor, Teare & Co., Cleveland.
Bge. Mitchell, Mary B.	W. C. Richardson, Cleveland.
Str. Moore, John W.	F. M. Osborne, Cleveland.
Bge. Moran, David	Kelley Island Lime & Transp. Co., Cleveland.
Bge. Negaunee	M. A. Bradley, Cleveland.
Bge. Neil, Fanny	Kelley Island Lime & Transp. Co., Cleveland.
Bge. Parker, B. W.	Gilchrist Transp. Co., Cleveland.
Str. Pioneer	Cleveland Cliffs Iron Co., Cleveland.
Bge. Planet	C. E. Benham, Cleveland.
Bge. Plymouth	Gray Trans. Co., Cleveland.
Bge. Polynesia	James Corrigan, Cleveland.
Str. Pontiac	Cleveland Cliffs Iron Co., Cleveland.
Bge. Potter, Agnes L.	L. P. & J. A. Smith Co., Cleveland.
Str. Presque Isle	Presque Isle Trans. Co., Cleveland.
Bge. Quayle, Thos.	M. A. Bradley, Cleveland.
Str. Racine	L. P. & J. A. Smith Co., Cleveland.
Str. Rhoda Emily	Saginaw Bay Trans. Co., Cleveland.
Bge. Rhodes, D P.	M. A. Bradley, Cleveland.
Str. Richardson, W. C.	W. C. Richardson, Cleveland.
Str. Rockefeller	Pittsburg Steamship Co., Cleveland.
Str. Saxon	Pittsburg Steamship Co., Cleveland.
Bge Scotia	Gray Trans. Co., Cleveland.
Schr. Selkirk	J. B. Chapman, Cleveland.
Str. Shamrock	Thos. M. Ryan, Buffalo.
Bge. Shawnee	J. N. Hahn, Cleveland.
Str. Sheldon, S. E.	M. A. Bradley, Cleveland.
Str. Shrigley, Jas. H.	J. N. Hahn, Cleveland.
Str. Siberia	Gilchrist Transp. Co., Cleveland.
Str. Spokane	The Wilson Transit Co., Cleveland.
Str. Stewart, Rhoda.	L. P. & J. A. Smith Co., Cleveland.
Bge. Tasmania	James Corrigan, Cleveland.
Str. Tionesta	Anchor Line, Buffalo.
Str. Tuttle, H. B.	C. E. Benham, Cleveland.
Bge. Tyrone	Gilchrist Transp. Co., Cleveland.
Bge. Wayne	Edw. Hines Lumber Co., Chicago.
Str. Whitney, D. C.	Gilchrist Transp. Co., Cleveland.
Schr. Woolson, Mary.	O. W. Blodgett, Bay City, Mich.
Bge. Yukon	Gilchrist Transp. Co., Cleveland.
Bge. 131	Pittsburg Steamship Co., Cleveland.

COLLINGWOOD, ONT.

Str. Brittanic	Northern Nav. Co., Sarnia, Ont.
Str. City of Collingwood	Northern Nav. Co., Sarnia, Ont.
Str. City of Midland.	Northern Nav. Co., Sarnia, Ont.
Str. City of Toronto.	Northern Nav. Co., Sarnia, Ont.
Str. Fairmount	Montreal Trans. Co., J. A. Cuttle, Montreal, Que.
Str. Germanic	Northern Nav. Co., Sarnia, Ont.
Str. Majestic	Northern Nav. Co., Sarnia, Ont.
Str. Midland Queen.	Mngr. Midland Nav. Co., Collingwood, Ont.
Str. Westmount	Montreal Trans. Co., J. A. Cuttle, Montreal, Que.

CONNEAUT, O.

Str. Black	Pittsburg Steamship Co., Cleveland.
Str. Bunsen	Pittsburg Steamship Co., Cleveland.
Bge. Carrington	Pittsburg Steamship Co., Cleveland.
Str. Edenborn	Pittsburg Steamship Co., Cleveland.
Str. Hill	Pittsburg Steamship Co., Cleveland.
Bge. Maia	Pittsburg Steamship Co., Cleveland.
Bge. Manda	Pittsburg Steamship Co., Cleveland.
Str. Maricopa	Pittsburg Steamship Co., Cleveland.
Str. Maruba	Pittsburg Steamship Co., Cleveland.
Str. Maunaloa	Pittsburg Steamship Co., Cleveland.
Str. Princeton	Pittsburg Steamship Co., Cleveland.
Bge. Smeaton	Pittsburg Steamship Co., Cleveland.
Str. Superior City.	Pittsburg Steamship Co., Cleveland.
Str. Zenith City.	Pittsburg Steamship Co., Cleveland.

DEPOT HARBOR, CAN.

Str. Matthews, W. D.	St. Lawrence & Chicago Steam Nav. Co., Toronto, Can.
Str. Midland King.	Mngr. Midland Nav. Co., Midland, Ont.
Str. Theano	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. Turret Cape	Canadian Lake & Ocean Nav. Co., Toronto.

DETROIT.

Str. Arundell	Star-Cole Line Steamers, Detroit.
Bge. Athens	Mack Steamship Co., Cleveland.

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Name of Vessel.	Name and Address of Managing Owner.
Str. Badger State	C. W. Kotcher, Detroit.
Str. Bransford	W. A. Hawgood, Cleveland.
Tug Cadillac	W. A. Hawgood & Co., Cleveland.
Str. City of Alpena	Detroit & Cleve. Nav. Co., Detroit.
Str. City of Buffalo	C. & B. Trans. Co., Cleveland.
Str. City of Cleveland	Detroit & Cleve. Nav. Co., Detroit.
Str. City of Detroit	Detroit & Cleve. Nav. Co., Detroit.
Str. City of Erie	C. & B. Trans. Co., Cleveland.
Str. City of Mackinac	Detroit & Cleve. Nav. Co., Detroit.
Str. City of the Straits	Detroit & Cleve. Nav. Co., Detroit.
Str. City of Toledo	White Star Line, Detroit.
Str. Cole, Darius	Star-Cole Line Steamers, Detroit.
Bge. Corry, Mike	C. W. Kotcher, Detroit.
Str. Eastern States	Detroit & Buffalo Stbt. Co., Detroit.
Str. Emerald	Capt. A. T. May, Detroit.
Str. Greyhound	White Star Line, Detroit.
Str. Gettysburg	Alger, Smith & Co., Detroit.
Bge. Grover, Anna P	C. W. Kotcher, Detroit.
Str. Hackett, R. J	Vulcan Steamship Co., Detroit.
Str. Hopkins, A. L	N. S. Carpenter, Detroit.
Bge. Hutchinson, J. M	James Corrigan, Cleveland.
Str. Idlewild	Star-Cole Line Steamers, Detroit.
Bge. Iron Cliff	James Corrigan, Cleveland.
Bge. Kelly, Edward	C. W. Kotcher, Detroit.
Str. Ketcham 2d, J. B	H. N. Loud, Au Sable, Mich.
Bge. King, C. G	H. L. Wilton, Detroit.
Str. Kirby, Frank E	Ashley & Dustin, Detroit.
Str. Kirby, S. R	Northwestern Trans. Co., Detroit.
Bge. Marenzo	MacArthur Bros., Detroit.
Schr. Maria Martin	John Dorrington, 62 Spruce st., Detroit, Mich.
Bge. McGregor, Wm	Vulcan Steamship Co., Detroit.
Schr. Monguagon	T. Hurley, Detroit.
Schr. Mystic Star	T. Hurley, Detroit.
Schr. Nassau	John Dorrington, 62 Spruce st., Detroit, Mich.
Str. Owana	White Star Line, Detroit.
Str. Pauly	C. W. Kotcher, Detroit.
Str. Raleigh	Henry Wineman, Jr., Detroit.
Str. Roumania	W. C. Richardson, Cleveland.
Str. Saginaw	C. W. Kotcher, Detroit.
Bge. Senator	H. & J. Chandler, Detroit.
Bge. Sprague, C	F. W. Rider, Detroit.
Str. Starke, C. H	Paul Hoeft, Rogers City, Mich.
Str. State of Ohio	Detroit & Cleve. Nav. Co., Detroit.
Str. State of New York	Detroit & Cleve. Nav. Co., Detroit.
Bge. Sunshine	F. W. Rider, Detroit.
Str. Tashmoo	White Star Line, Detroit.
Str. Tecumseh	MacArthur Bros., Detroit.
Str. Tempest No. 2	H. L. Wilton, Detroit.
Bge. Tokio	Henry Wineman, Jr., Detroit.
Bge. Vesta	W. J. Pulling, Windsor, Ont.
Str. Waldo, L. C	Roby Trans. Co., Detroit.
Str. Ward, Eber	John J. Boland & Co., Buffalo.
Str. Western States	Detroit & Buffalo Stbt. Co., Detroit.
Str. Wyandotte	Ashley & Dustin, Detroit.

DULUTH, MINN.

Bge. Amazon	James Corrigan, Cleveland.
Str. America	A. Booth & Co., Chicago, Ill.
Str. Bon Ami	White Star Trans. Co., Duluth.
Str. Bradshaw, Mable	White Star Trans. Co., Duluth.
Bge. Bryn Mawr	Pittsburg Steamship Co., Cleveland.
Tug City of Marquette	Wm. Osborn, Duluth, Minn.
Str. Colgate	Pittsburg Steamship Co., Cleveland.
Bge. Constitution	Pickands, Mather & Co., Cleveland.
Tug Corona	Wm. Osborn, Duluth, Minn.
Bge. Corliss	Pittsburg Steamship Co., Cleveland.
Str. Crescent City	Pittsburg Steamship Co., Cleveland.
Str. Davidson, A. D	Great Lakes & St. Lawrence Trans. Co., Duluth.
Str. Eastern	White Star Trans. Co., Duluth.
Bge. Fritz	Pittsburg Steamship Co., Cleveland.
Str. Gould, Jay	Lake Michigan & Lake Superior Trans. Co., Chicago, Ill.
Bge. Holley	Pittsburg Steamship Co., Cleveland.
Str. Houghton	Pittsburg Steamship Co., Cleveland.
Str. Howe, Geo. C	Great Lakes & St. Lawrence Trans. Co., Duluth.
Str. Hoyt, Jas. H	Provident Steamship Co., Duluth.
Str. Hutchinson, J. T	Hutchinson & Co., Cleveland.
Bge. Jenney	Pittsburg Steamship Co., Cleveland.
Str. Kerr, D. G	Provident Steamship Co., Duluth.
Str. Mahoning	Anchor Line, Buffalo.
Str. Manola	Pittsburg Steamship Co., Cleveland.
Bge. Marconi	Wm. Osborn, Duluth, Minn.
Str. Marshall, A. M	Great Lakes & St. Lawrence Trans. Co., Duluth.
Bge. Martha	Pittsburg Steamship Co., Cleveland.
Str. Mataafa	Pittsburg Steamship Co., Cleveland.
Str. Moore, A. W	A. Booth & Co., Chicago, Ill.
Str. Northern Wave	Mutual Transit Co., Buffalo.
Bge. Osborn	Wm. Osborn, Duluth, Minn.
Str. Pathfinder	Pickands, Mather & Co., Cleveland.
Str. Parent, S. N	Great Lakes & St. Lawrence Trans. Co., Duluth.
Str. Peavey, Frank H	Peavey Steamship Co., Duluth.
Str. Peavey, Geo. W	Peavey Steamship Co., Duluth.
Bge. Sagamore	Pickands, Mather & Co., Cleveland.
Str. Sahara	G. A. Tomlinson, Duluth.
Str. Schuylkill	Anchor Line, Buffalo.
Str. Scranton	Lake Transit Co., Buffalo.
Str. Sharpless, John	Great Lakes & St. Lawrence Trans. Co., Duluth.
Str. Siemens	Pittsburg Steamship Co., Cleveland.
Str. Sinaloa	G. A. Tomlinson, Duluth.
Str. Sonoma	G. A. Tomlinson, Duluth.
Str. Sultana	G. A. Tomlinson, Duluth.
Bge. Thomas	Pittsburg Steamship Co., Cleveland.
Str. Victory	Pickands, Mather & Co., Cleveland.
Str. Wallace, Robt	Great Lakes & St. Lawrence Trans. Co., Duluth.
Str. Williams, Geo. F	Gilchrist Trans. Co., Cleveland.
Str. Wolvin, Aug. B	Acme Steamship Co., Duluth, Minn.
Bge. 105	Pittsburg Steamship Co., Cleveland.
Bge. 118	Pittsburg Steamship Co., Cleveland.
Bge. 130	Pittsburg Steamship Co., Cleveland.
Bge. 133	Pittsburg Steamship Co., Cleveland.
Scow No. 13	Wm. Osborn, Duluth, Minn.
Scow No. 14	Wm. Osborn, Duluth, Minn.

DUNKIRK.

Bge. Tilden, S. J	August Jean, Buffalo.

ERIE, PA.

Str. Adams, Thomas	Adams Trans. Co., Detroit, Mich.
Str. Alaska	Anchor Line, Buffalo, N. Y.
Str. Bartlett	Pittsburg Steamship Co., Cleveland.
Bge. Bell	Pittsburg Steamship Co., Cleveland.
Str. Colby	Pittsburg Steamship Co., Cleveland.
Str. Cornell	Pittsburg Steamship Co., Cleveland.
Bge. Corning, Ida	Edw. Hines Lumber Co., Chicago.
Str. Empire City	Pittsburg Steamship Co., Cleveland.
Str. Fulton	Pittsburg Steamship Co., Cleveland.
Str. Gates	Pittsburg Steamship Co., Cleveland.
Str. Harvard	Pittsburg Steamship Co., Cleveland.
Str. Hoyt	Pittsburg Steamship Co., Cleveland.
Str. Lafayette	Pittsburg Steamship Co., Cleveland.
Bge. Maida	Pittsburg Steamship Co., Cleveland.
Bge. Malta	Pittsburg Steamship Co., Cleveland.
Bge. Manila	Pittsburg Steamship Co., Cleveland.
Bge. Marcia	Pittsburg Steamship Co., Cleveland.
Str. Mariposa	Pittsburg Steamship Co., Cleveland.
Str. Morse	Pittsburg Steamship Co., Cleveland.
Str. Muncy	Anchor Line, Buffalo, N. Y.
Str. Murphy	Pittsburg Steamship Co., Cleveland.
Str. Neilson	Pittsburg Steamship Co., Cleveland.
Str. Niagara	Edward Mehl, Erie, Pa.
Str. Niagara	M. H. Taylor, Erie, Pa.
Bge. Pendell, D	M. Sicken, Marine City, Mich.
Str. Poe	Pittsburg Steamship Co., Cleveland.
Str. Rensselaer	Pittsburg Steamship Co., Cleveland.
Bge. Roebling	Pittsburg Steamship Co., Cleveland.
Bge. Russell	Pittsburg Steamship Co., Cleveland.
Str. Thomson	Pittsburg Steamship Co., Cleveland.
Bge. Whitworth	Pittsburg Steamship Co., Cleveland.
Bge. 107	Pittsburg Steamship Co., Cleveland.
Bge. 109	Pittsburg Steamship Co., Cleveland.
Bge. 110	Pittsburg Steamship Co., Cleveland.
Bge. 111	Pittsburg Steamship Co., Cleveland.
Bge. 116	Pittsburg Steamship Co., Cleveland.
Bge. 117	Pittsburg Steamship Co., Cleveland.
Bge. 126	Pittsburg Steamship Co., Cleveland.
Bge. 127	Pittsburg Steamship Co., Cleveland.
Bge. 132	Pittsburg Steamship Co., Cleveland.
Bge. 135	Pittsburg Steamship Co., Cleveland.
Bge. 137	Pittsburg Steamship Co., Cleveland.
Bge. 201	Pittsburg Steamship Co., Cleveland.
Bge. 202	Pittsburg Steamship Co., Cleveland.

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Name of Vessel.	Name and Address of Managing Owner.
ESCANABA, MICH.	
Str. Widlar, Francis	Mack Steamship Co., Cleveland, O.
FERRYSBURG, MICH.	
S. Bge. O'Neff, Sidney.	Geo. Robertson, Grand Haven, Mich.
Str. Soo City	A. Booth & Co., Chicago, Ill.
Str. Soo City	Michigan S. S. Co., Chicago, Ill.
GARDEN ISLAND, ONT.	
Str. Bluebell	The Calvin Co., Garden Island, Ont.
Bge. Burma	The Calvin Co., Garden Island, Ont.
Str. Calvin, D. D.	The Calvin Co., Garden Island, Ont.
Bge. Ceylon	The Calvin Co., Garden Island, Ont.
Str. Chieftain	The Calvin Co., Garden Island, Ont.
Str. Frontenac	The Calvin Co., Garden Island, Ont.
Str. India	The Calvin Co., Garden Island, Ont.
Str. Johnston	The Calvin Co., Garden Island, Ont.
Str. Parthia	The Calvin Co., Garden Island, Ont.
Str. Simla	The Calvin Co., Garden Island, Ont.
GLADSTONE, MICH.	
Str. Cowle, John B.	Cowle Transit Co., Cleveland, O.
GODERICH, ONT.	
Str. Abercorn	Capt. W. J. Willoughby, Goderich, Ont.
Str. Rosemount	Montreal Trans. Co., J. A. Cuttle, Montreal, Que.
Str. Runnels	Spence Bros., Cleveland, O.
Str. Turret Chief	Canadian Lake & Ocean Nav. Co., Toronto, Ont.
GRAND HAVEN, MICH.	
Str. Pentland	W. H. Loutit, Grand Haven, Mich.
GREEN BAY, WIS.	
Str. Eddy, C. A.	Gilchrist Trans. Co., Cleveland, O.
Str. Hart, Eugene C.	Hart Steamboat Line, Green Bay, Wis.
Str. Hart, Fannie C.	Hart Steamboat Line, Green Bay, Wis.
Str. Hart, Harriet A.	Hart Steamboat Line, Green Bay, Wis.
Bge. Hartnell, Geo. E.	Northwestern Trans. Co., Detroit.
Str. Langham	Thomas Adams, Detroit, Mich.
Str. Mitchell, Sam'l.	W. C. Richardson, Cleveland, O.
HALIFAX, N. S.	
Scottish Hero	Canadian Lake & Ocean Nav. Co., Toronto, Ont.
HAMILTON, ONT.	
Str. Lake Michigan	R. O. & A. B. McKay, Hamilton, Ont.
Str. Wahcondah	R. O. & A. B. McKay, Hamilton, Ont.
HOLLAND, MICH.	
Str. Woods, F.	R. C. Brittain, Saugatuck, Mich.
HURON, O.	
Schr. Columbian	E. J. Cuyler, Oberlin, O.
Bge. Golden Age	W. C. Richardson, Cleveland, O.
Str. Merrimac	Gilchrist Trans. Co., Cleveland, O.
JOHNSON ISLAND, ONT.	
Bge. Noquebay	M. J. Lyon, Bay City, Mich.
KINGSTON, ONT.	
Str. Aletha	Lake Ont. & Bay of Quinte Stbt Co., Kingston, Ont.
Str. Caspian	Lake Ont. & Bay of Quinte Stbt Co., Kingston, Ont.
Str. Pellatt, H. M.	Canadian Lake & Ocean Nav. Co., Toronto.
Str. Spartan	Richelieu & Ontario Nav. Co., Montreal.
Str. North King	Lake Ont. & Bay of Quinte Stbt Co., Kingston, Ont.
Str. Topeka	F. W. Smith, Mgr., Calumet Transit Co., Milwaukee, Wis.
LEVIS, P. Q.	
Str. Canada	Richelieu & Ontario Nav. Co., Montreal, Can.
LORAIN, O.	
Str. Brown, W. L.	C. W. Elphicke, Chicago, Ill.
Str. Heffelfinger, F. T.	Peavey Steamship Co., Duluth, Minn.
Bge. Krupp	Pittsburg Steamship Co., Cleveland.
Bge. Madeira	Pittsburg Steamship Co., Cleveland.
Bge. Marsala	Pittsburg Steamship Co., Cleveland.
Bge. Nasmyth	Pittsburg Steamship Co., Cleveland.

Name of Vessel.	Name and Address of Managing Owner.
LUDINGTON, MICH.	
Str. Pere Marquette 5.	Pere Marquette S. S. Co., Milwaukee, Wis.
MANISTEE, MICH.	
Schr. Arendal	Louis Sands, Manistee, Mich.
S. Bge. Covell, M. B.	Gus. Kitzinger, Manistee, Mich.
Bge. Covell, Mark B.	John Smith, Manistee, Mich.
Bge. Helen C.	John Smith, Manistee, Mich.
Str. Illinois	Northern Mich. Transp. Co., Chicago, Ill.
Str. Kansas	Northern Mich. Transp. Co., Chicago, Ill.
Schr. Luckley, A. W.	Louis Sands, Manistee, Mich.
Str. Marshall, Maggie.	Louis Sands, Manistee, Mich.
Str. Missouri	Northern Mich. Transp. Co., Chicago, Ill.
Str. Pere Marquette No. 2	Gus. Kitzinger, Manistee, Mich.
Str. Pere Marquette No3	Gus. Kitzinger, Manistee, Mich.
Str. Rietz, Chas.	J. O. Nessen, Manistee, Mich.
Tug Ruby	John Smith, Manistee, Mich.
S. Bge. Schroeder, Jno.	Gus. Kitzinger, Manistee, Mich.
Str. Wente, Robt. C.	Manistee Lumber Co., Manistee, Mich.
Str. Wotan	Louis Sands, Manistee, Mich.
Str. Soper, Albert	J. O. Nessen, Manistee, Mich.
MANITOWOC, WIS.	
Tow Barge Algeria	Sidney, Scott, Mt. Clemens, Mich.
Str. Appomattox	Pickands, Mather & Co., Cleveland, O.
Str. Aurania	John Corrigan, Cleveland, O.
Bge. Aurora	Henry Wineman, Jr., Detroit, Mich.
Str. Bulgaria	James Corrigan, Cleveland, O.
Str. Chicago	Goodrich Transp. Co., Chicago, Ill.
Str. Chisholm, Wm.	Minch & Nicholas Transit Co., Cleveland, O.
Str. Chris. Columbus	Goodrich Transp. Co., Chicago, Ill.
Str. City of Berlin	Henry Wineman, Jr., Detroit, Mich.
Str. Edwards, Wm.	W. C. Richardson, Cleveland, O.
Str. Ellwood	Pittsburg Steamship Co., Cleveland, O.
Str. Grecian	Pittsburg Steamship Co., Cleveland, O.
Str. John Harper	The Gilchrist Transp. Co., Cleveland, O.
Str. Joliet	Pittsburg Steamship Co., Cleveland, O.
Str. Alex. Nimick	The Gilchrist Transp. Co., Cleveland, O.
Str. Owen, John	Owen Trans. Co., Detroit, Mich.
Str. Sheboygan	Goodrich Transp. Co., Chicago, Ill.
Str. Steinbrenner Henry.	Kinsman Transit Co., Cleveland, O.
Str. Stephenson	Pittsburg Steamship Co., Cleveland, O.
Str. Van Hise	Pittsburg Steamship Co., Cleveland, O.
Str. Virginia	Goodrich Transp. Co., Chicago, Ill.
Str. Watt	Pittsburg Steamship Co., Cleveland, O.
Tug Williams, Kate	Lake Shore Store Co., Milwauke, Wis.
Bge. Wilson, Mable.	P. J. Ralph & Co., Detroit, Mich.
MARINE CITY, MICH.	
Schr. Bloom, Nelson.	Capt. J. B. Lozen, New Baltimore, Mich.
Bge. Godfrey, J.	Capt. J. B. Loren, New Baltimore, Mich.
Bge. Lozen, J. B.	Capt. J. B. Lozen, New Baltimore, Mich.
Bge. McWilliams, Ed.	J. A. Francombe, Hope Trans. Co., Detroit, Mich.
Str. Rand	J. C. Miller, Marine City.
Str. Street, Chas. A.	Capt. J. B. Lozen, New Baltimore, Mich.
Str. Stafford, W.R.	J. A. Francombe, Hope Trans. Co., Detroit, Mich.
Bge. Troy	Mitchell & Co., Cleveland, O.
MARYSVILLE, MICH.	
Str. City of Concord.	N. & B. Mills, Marysville, Mich.
Str. Kendall, H. J.	John E. Mills, Pt. Huron, Mich.
MICHIGAN CITY, IND.	
Str. Hinton, Francis.	The Marine Navigation Co., Michigan City, Ind.

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Name of Vessel.	Name and Address of Managing Ownee
Str. Colborn, A. R.	The Marine Navigation Co., Michigan City, Ind.
Str. Indianapolis	Indiana Transp. Co., Michigan City, Ind.
Str. Mary	Indiana Transp. Co., Michigan City, Ind.
Str. Parks, O. E.	The Colborn Nav. Co., Michigan City, Ind.
MIDLAND, ONT.	
Str. Magnolia	Midland Towing & Wrecking Co., Midland, Ont.
Str. Menodora	Midland Towing & Wrecking Co., Midland, Ont.
Str. Minitaga	Midland Towing & Wrecking Co., Midland, Ont.
Str. Reliance	Midland Towing & Wrecking Co., Midland, Ont.
Str. Traveler	Midland Towing & Wrecking Co., Midland, Ont.
MILWAUKEE, WIS.	
Bge Aberdeen	H. J. Pauly, Milwaukee, Wis.
Bge. Albatross	Midland Towing & Wrecking Co., Midland, Ont.
Str. Alva	M. A. Bradley, Cleveland, O.
Str. Amazonas	James Davidson, West Bay City, Mich.
Str. America	Charles Beyschlag, St. Clair, Mich.
Str. Argonant	John E. Mills, Pt. Huron, Mich.
Str. Argonaut	N. & B. Mills, Marysville, Mich.
Bge. Armenia	West Division Steamship Co., Chicago, Ill.
Bge. Baltic	H. J. Pauly, Milwaukee, Wis.
Str. Bielman, C. F.	MacLachlan Trans. Co., Pt. Huron, Mich.
Bge. Biwabik	N. & B. Mills, Marysville, Mich.
Str. Brown Fayette	Northwestern Trans Co., Detroit, Mich.
Str. Cambria	Pittsburg Steamship Co., Cleveland.
Tug Carl	W. H. Meyer, Milwaukee, Wis.
Str. Cartagena	James Davidson, West Bay City, Mich.
Str. Christopher	W. H. Meyer, Milwaukee, Wis.
Str. Christie, T S.	Geo. Engelking, Chicago, Ill.
Str. City of Bangor.	Eddy-Shaw Transit Co., Bay City, Mich.
Str. City of Glasgow.	Hutchinson & Co., Cleveland, O.
Str. City of Rome	The Gilchrist Transp Co., Cleveland.
Schr. City of Sheboygan	Wm. Schlosser, Milwaukee, Wis.
Schr. Coates, L. B.	Walczac, Stephen.
Str. Coralia	Pittsburg Steamship Co., Cleveland.
Str. Cumberland	The Gilchrist Transp Co., Cleveland.
Str. Davidson, Thos.	H. J. Pauly, Milwaukee, Wis.
Str. Duncan, John	H. J. Pauly, Milwaukee, Wis.
Str. Eddy Selwyn	Eddy-Shaw Transit Co., Bay City, Mich.
Str. Elphicke, Mary	C. W. Elphicke
Str. Fairbairn	Pittsburg Steamship Co., Cleveland.
Str. Fitch, Wm. F.	Franklin Trans Co. (D. R. Hanna), Cleveland, O.
Str. Fryer, Robt L.	Mitchell & Co., Cleveland, O.
Str. Gayley, James	Mitchell & Co., Cleveland, O.
Str. Gilbert	Pittsburg Steamship Co., Cleveland.
Str. Gilchrist, F. W.	The Gilchrist Transp Co., Cleveland.
Str. Goodyear, F. H.	Mitchell & Co., Cleveland, O.
Schr. Grant, Levi	Wm. Schlosser, Milwaukee, Wis.
Str. Gratwick, W. H.	Mitchell & Co., Cleveland, O.
Str. Griffin	Pittsburg Steamship Co., Cleveland.
Str. Hart, F. W.	The Gilchrist Transp Co., Cleveland.
Str. Hilton	Charles H. Ellis, Milwaukee, Wis.
Tug Hogesman, J. J.	W. H. Meyer, Milwaukee, Wis.
Str. Holden, Hendrick S	Mitchell & Co., Cleveland, O.
Str. Ionia	Ionia Transp. Co., Detroit, Mich.
Str. Ireland, R. L.	The Gilchrist Transp Co., Cleveland.
Str. Iroquois	W. C. Richardson, Cleveland, O.
Str. Keefe, J. S.	Great Lakes & St. Lawrence Trans. Co., Duluth, Minn.
Str. Kelton	Mich., Ind. & Ill. Line, Chicago, Ill.
Str. Lagonda	Mitchell & Co., Cleveland, O.
Str. Lake Shore	The Gilchrist Transp Co., Cleveland.
Str. Lambert, John.	Great Lakes & St. Lawrence Trans. Co., Duluth, Minn.
Str. Mack, W. H.	Mack Steamship Co., Cleveland, O.
Str. Major	Mitchell & Co., Cleveland, O.

Name of Vessel.	Name and Address of Managing Owner.
Str. Malietoa	Pittsburg Steamship Co., Cleveland.
Str. Manchester	Inter-ocean Nav. Co., Milwaukee, Wis.
Str. Marina	Pittsburg Steamship Co., Cleveland.
Str. Marion	Mich., Ind. & Ill. Line, Chicago, Ill.
Str. Mariska	Pittsburg Steamship Co., Cleveland.
Str. Mars	The Gilchrist Transp Co., Cleveland.
Str. Mather	Pittsburg Steamship Co., Cleveland.
Bge. McLachlan, Mary E.	MacLachlan Trans. Co., Pt. Huron, Mich.
Str. Merida	The Gilchrist Transp Co., Cleveland.
Tug Meyer, W. H.	W. H. Meyer, Milwaukee, Wis.
Str. Mills Robt	Red Star Line, Buffalo, N. Y.
Str. Minch, Anna C.	Kinsman Transit Co., Cleveland, O.
Str. Necosta	The Gilchrist Transp Co., Cleveland.
Str. Neff, Chas. S.	Samuel Neff & Sons, Milwaukee, Wis.
Str. Neff, Lucy	Samuel Neff & Sons, Milwaukee, Wis.
Str. Neosho	The Gilchrist Transp Co., Cleveland.
Str. Oades, Jno	Mich., Ind. & Ill. Line, Chicago, Ill.
Str. Olympia	The Gilchrist Transp Co., Cleveland.
Str. Orion	Green Bay Vessel Co., Green Bay, Wis.
Str. Osborne, F. N.	The Gilchrist Transp Co., Cleveland.
Str. Outhwaite, T. H.	W. C. Richardson, Cleveland, O.
Str. Owen, Ira H.	J. G. Keith & Co., Chicago, Ill.
Str. Pabst, Fred	West Division Steamship Co., Chicago, Ill.
Str. Palmer	Pittsburg Steamship Co., Cleveland.
Str. Panama	James Davidson, West Bay City, Mich.
Str. Penobscot	Eddy-Shaw Transit Co., Bay City, Mich.
Str. Pope, E. C.	Eddy-Shaw Transit Co., Bay City, Mich.
Str. Presley, Geo.	Mona Transp. Co., Cleveland, O.
Schr. Pretoria	James Davidson, West Bay City, Mich.
Str. Pueblo	F. W. Smith, Mgr., Calumet Transit Co., Milwaukee, Wis.
Str. Rappahannock	James Davidson, West Bay City, Mich.
Str. Reis, Wm. E.	Mitchell & Co., Cleveland, O.
Str. Republic	Franklin Trans Co. (D. R. Hanna), Cleveland, O.
Str. Republic	Republic Iron Co., Cleveland, O.
Str. Roman	Pittsburg Steamship Co., Cleveland.
Schr. Sands Isabella	Louis Sands, Manistee, Mich.
Bge. Santiago	Pickands, Mather & Co., Cleveland, O.
Str. Saunders, R. N.	The Gilchrist Transp Co., Cleveland.
Str. Schlesinger, F.	Wisconsin Steamship Co., Milwaukee, Wis.
Str. Scranton, Walter	Mitchell & Co., Cleveland, O.
Str. Shenandoah	James Davidson, West Bay City, Mich.
Str. Shores, Adella	Samuel Neff & Sons, Milwaukee, Wis.
Tug Simpson, W. H.	W. H. Meyer, Milwaukee, Wis.
Str. Squire, F. B.	Mack Steamship Co., Cleveland, O.
Tug Starke	W. H. Meyer, Milwaukee, Wis.
Str. Stewart, A. E.	Stewart Transp. Co., Detroit, Mich.
Str. Stone, Geo.	M. A. Bradley, Cleveland, O.
Str. Tacoma	The Gilchrist Transp Co., Cleveland.
Str. Tampa	Henry Wineman, Jr., Detroit, Mich.
Str. Trevor	Pittsburg Steamship Co., Cleveland.
Str. Vail, Walter	H. J. Pauly, Milwaukee, Wis.
Str. Vulcan	The Gilchrist Transp Co., Cleveland.
Str. Wade, T. H.	W. C. Richardson, Cleveland, O.
Str. Wallula	The Gilchrist Transp Co., Cleveland.
Str. Warner, Chas. M.	U. S. Transp. Co., Cleveland, O.
Str. Watson, G. W.	The Gilchrist Transp Co., Cleveland.
Str. Wawatam	Pittsburg Steamship Co., Cleveland.
Str. Weeks, J. L.	The Gilchrist Transp Co., Cleveland.
Tug Welcome	W. H. Meyer, Milwaukee, Wis.
S. Bge. Wescott, J. W.	Forester Lumber Co., Milwaukee, Wis.
Schr. Wolverine	Wm. Schlosser, Milwaukee, Wis.
Str. Wolvin	Pittsburg Steamship Co., Cleveland.
Str. Lewis Woodruff	The Gilchrist Transp Co., Cleveland.
Str. Yakima	The Gilchrist Transp Co., Cleveland.
Str. Yuma	The Wilson Transit Co., Cleveland, O.
MT. CLEMENS, MICH.	
Str. Clinton	Chas. Longsby, Mt. Clemens, Mich.
Str. Scott, M. A.	Gilbert La Croix, Mt. Clemens, Mich.
Pass. Str. Mascotte	Delray & Belle Isle Ferry Co., Mt. Clemens, Mich.

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Schr. Davis, Lyman M.	Thos. Monroe, Muskegon, Mich.
Str. Hackley, Chas H.	Chicago & Muskegon Trans. Co., Muskegon, Mich.
Str. Markham, Geo. C.	Thos. Monroe, Muskegon, Mich.
Str. Otis, John	Muskegon Steam Barge Co., Muskegon, Mich.
Str. Stafford, Alice	Chicago & Muskegon Trans. Co., Muskegon, Mich.
Str. Stephenson, S. M.	Muskegon Steam Barge Co., Muskegon, Mich.
Str. Wilson, Mathew	Muskegon Steam Barge Co., Muskegon, Mich.
NORTH TONAWANDA, N. Y.	
Bge. Amboy	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Str. Barth, L. L.	Edw. Hines Lumber Co., Chicago. Ill.
Schr. Bissell, Harvey	Ben C. Kohn, Bay City, Mich.
Str. Buell, F. R.	Tonawanda Barge Line, N. Tonawanda, N. Y.
Str. Clyde	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Str. Curtis, C. F.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Str. Eddy John F.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Eleanor	Tonawanda Barge Line, N. Tonawanda, N. Y.
Bge. Fassett, T. S.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Filer, D. L.	Edw. Hines Lumber Co., Chicago. Ill.
Str. Fleetwood	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Fulton	Tonawanda Barge Line, N. Tonawanda, N. Y.
Bge. Genoa	John W. Robinson, N. Tonawanda, N. Y.
Str. Green, C. H.	John W. Robinson, N. Tonawanda, N. Y.
Str. Hines, L. E.	Edw. Hines Lumber Co., Chicago. Ill.
Bge. Holland, Grace	Guy White, Tonawanda, N. Y.
Bge. Holland, N. C.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Iron City	Guy White, Tonawanda, N. Y.
Bge. Jennette	Tonawanda Barge Line, N. Tonawanda, N. Y.
Bge. Manitou	M. J. Lynn, Bay City, Mich.
Bge. Moravia	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Str. Murcur, Fred	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Nirvana	Edw. Hines Lumber Co., Chicago. Ill.
Str. Oceanica	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Our Son	Gurdon Corning, Saginaw, Mich.
Str. Packer, Harry E.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Pennington, B. G.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Pomeroy, S. B.	Tonawanda Barge Line, N. Tonawanda, N. Y.
Str. Smith, Edward	Guy White, Tonawanda, N. Y.
Str. Spencer, Geo.	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Bge. Stewart	Tonawanda Barge Line, N. Tonawanda, N. Y.
Str. Veronica	Tonawanda Iron & Steel Co., N. Tonawanda, N. Y.
Str. Weston, A.	Tonawanda Barge Line, N. Tonawanda, N. Y.
OGDENSBURG, N. Y.	
Bge. Aid	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Argosy	Geo. Hall Coal Co., Ogdensburg, N. Y.
Str. Avon	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Beals, E. P.	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Black Diamond	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Bolivar	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Buckley, Jas.	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Carney, Fred	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Tug Conlew	Geo. Hall Coal Co., Ogdensburg, N. Y.
Str. Denver	F. W. Smith, Mgr. Calumet Transit Co., Milwaukee, Wis.
Bge. H. B.	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Tug Hall, Mary P.	Geo. Hall Coal Co., Ogdensburg, N. Y.
Str. Harlow	W. J. Harlow, Toledo, O.
Bge. Hecla	Geo. Hall Coal Co., Ogdensburg, N. Y.
Str. Hiawatha	Gilchrist Transp. Co., Odgensburg, N. Y.
Bge. Hoboken	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Howard, John C.	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Ireland	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Lyon, Mary	Geo. Hall Coal Co., Ogdensburg, N. Y.
Str. Madagascar	Bigelow Bros. & Walker Co., Chicago, Ill.
Str. Massachusetts	Gilchrist Transp. Co., Odgensburg, N. Y.
Bge. Matthews, Jennie	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Menominee	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Mohawk	Geo. Hall Coal Co., Ogdensburg, N. Y.
Tug Myra (British)	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Onondaga	Geo. Hall Coal Co., Ogdensburg, N. Y.
Tug Proctor, W. L.	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Rugee, John	Geo. Hall Coal Co., Ogdensburg, N. Y.
Tug Seymour, Geo. D.	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Sherman, W. A.	Geo. Hall Coal Co., Ogdensburg, N. Y.
Bge. Stephenson, Isaac	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
Bge. Whitbeck, Henry.	Ogdensburg Coal & Towing Co., Ogdensburg, N. Y.
OSWEGO, N. Y.	
Str. Marshall, Samuel.	Central Canada Coal Co., Ltd., Brockville, Ont.
Str. Monteagle	Robt. Downey & Co., Oswego, N. Y.
Str. Omaha	F. W. Smith, Mgr. Calumet Transit Co., Wilwaukee, Wis.
S. Bge. St. Joseph	W. C. Blodgett, Oswego, N. Y.
OWEN SOUND, ONT.	
Str. Algonquin	St. Lawrence & Chicago Steam Nav. Co., Toronto, Can.
Str. Ames, A. E.	Canadian Lake & Ocean Nav. Co., Toronto, Ont.
Str. Caribou	A. Booth & Co., Chicago, Ill.
Bge. Donaldson	J. U. Karr, Cleveland, O.
Str. Donnacona	R. O. & A. B. McKay, Hamilton, Ont.
Str. Manitou	A. Booth & Co., Chicago, Ill.
Str. Plummer, J. H.	Canadian Lake & Ocean Nav. Co., Toronto, Ont.
Str. Rosedale	St. Lawrence & Chicago Steam Nav. Co., Toronto, Can.
Str. Strathcona	R. O. & A. B. McKay, Hamilton, Ont.
Str. Turret Court	Canadian Lake & Ocean Nav. Co., Toronto, Ont.
PESHTIGO, WIS.	
Str. Ames, J. C.	Lake Mich. Car Ferry Service, Chicago, Ill.
Car Ferry No. 2	Lake Mich. Car Ferry Service, Chicago, Ill.
PORT ARTHUR, ONT.	
Str. Arabian	J. B. Fairgrieve & Co., Hamilton, Ont.
Str. Neepawah	R. O. & A. B. McKay, Hamilton, Ont.
PORT CLINTON, O.	
Str. Leland	Alex Hitchcock, Pt. Clinton, O.
PORT COLBORNE, CAN.	
Str. Ford River	W. N. Kelley, Travers City, Mich.

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PORT DALHOUSIE, CAN.	
Str. Cuba	Merchants Line, G. E. Jackes, Montreal, Can.
PORT HURON, MICH.	
Str. Britannic	Henry McMoran, Pt. Huron, Mich.
Str. Carpenter, O. O.	H. E. Runnels, Pt. Huron, Mich.
Tug Castle, W. B.	R. P. Thompson, Pt. Huron, Mich.
Schr. Clint, D. K.	Teagan Bros., Detroit, Mich.
Str. Duncan, Maggie	H. E. Runnels, Pt. Huron, Mich.
Bge. Favorite	H. E. Runnels, Pt. Huron, Mich.
Str. Ford, J. C.	Nipigon Transit Co., Pt. Huron, Mich.
Str. Groh, Mary	Henry McMoran, Pt. Huron, Mich.
Str. Harlem	Jenks Ship Building Co., Pt. Huron, Mich.
Schr. Howland, Thos W.	Henry McMoran, Pt. Huron, Mich.
Str. Hurlbut, Chauncey	Teagan Bros., Detroit, Mich.
Str. Iroquois	St. Lawrence & Chicago Steam Nav. Co., Toronto, Can.
Scow Kabin, Koal	R. P. Thompson, Pt. Huron, Mich.
Str. Lincoln, Isaac	A. F. Price, Fremont, O.
Bge. Robinson, Eva	A. F. Price, Fremont, O.
Str. Ross, Myrtle	Henry McMoran, Pt. Huron, Mich.
Str. Russia	Lake Transit Co., Buffalo, N. Y.
Str. Russia	Pt. Huron & Duluth S. S. Co., Pt. Huron, Mich.
Str. Shores, Jr., E. A.	Lake Shore Saw Mill & Lumber Co., Cleveland, O.
Bge. Tyson, E. E.	H. E. Runnels, Pt. Huron, Mich.
Tug Watson, A. B.	R. P. Thompson, Pt. Huron, Mich.
Schr. Wells, Hattie	Charles Ludwick, Pt. Huron, Mich.
RACINE, WIS.	
Schr. Holmes, J. A.	Erick Erickson, Racine, Wis.
SAGINAW, MICH.	
Bge. Buckhout, B. B.	Shannon & Garey, Saginaw, Mich.
Bge. Cahoon, J. H.	Shannon & Garey, Saginaw, Mich.
Schr. Caster, L.	R. C. Brittain, Saugatuck, Mich.
Bge. Crostwaithe, Wm.	Shannon & Garey, Saginaw, Mich.
Str. Crouse, J. S.	R. C. Brittain, Saugatuck, Mich.
Bge. Exile	Shannon & Garey, Saginaw, Mich.
Str. Holland, Robt.	Shannon & Garey, Saginaw, Mich.
Bge. Keith, Ada	Shannon & Garey, Saginaw, Mich.
Bge. Lester, T. J.	Shannon & Garey, Saginaw, Mich.
Str. McVea, Chas.	Chicago, Saugatuck & Douglas Trans. Co., Saugatuck.
Str. McVear, C.	R. C. Brittain, Saugatuck, Mich.
Str. Saugatuck.	Chicago, Saugatuck & Douglas Trans. Co., Saugatuck.
Str. Warren, Homer	Shannon & Garey, Saginaw, Mich.
Bge. White & Friant	Shannon & Garey, Saginaw, Mich.
SANDUSKY, OHIO.	
Str. Arrow	Mr. E. McFall, Sandusky, O.
Str. Cherokee	W. S. Brainard, Toledo, O.
Schr. Chippewa	W. S. Brainard, Toledo, O.
Str. City of Naples	Gilchrist Transp. Co., Cleveland, O.
Bge. City of Rossford	John Homegardner, Sandusky, O.
Bge. Crete	W. C. Richardson, Cleveland, O.
Str. Hays, R. B.	G. A. Boekling, Sandusky, O.
Str. Laura, Annie	C. McG. Koch, Sandusky, O.
Str. Lake Side	Mr. E. McFall, Sandusky, O.
Str. Linden	Sandusky Lumber & Box Co., Sandusky, O.
Bge. Mary H.	John Homegardner, Sandusky, O.
Str. Norma	Kelley Island Lime & Transp. Co., Cleveland, O.
Bge. Ohio	Kelley Island Lime & Transp. Co., Cleveland, O.
Str. Wehrle, J. A.	G. A. Boekling, Sandusky, O.
SANDWICH, ONT.	
Str. Benton	Capt. W. J. Willoughby, Goderich, Ont.
Schr. Hutchinson, E. C.	Hutchinson & Co., Cleveland, O.
Schr. Richards, Mary	Pittsburg Coal Co., Cleveland, O.
Str. Richards, Rube	Pittsburg Coal Co., Cleveland, O.
Bge. Sligo	W. J. Pulling, Windsor, Ont.
SARNIA, ONT.	
Str. Huronic	Northern Nav. Co., Sarnia, Ont.
Str. Monarch	Northern Nav. Co., Sarnia, Ont.
Str. United Empire	Northern Nav. Co., Sarnia, Ont.
SAULT STE. MARIE, MICH.	
Bge. Antrim	Gilchrist Transp. Co., Cleveland, O.

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SAULT STE. MARIE, ONT.	
Bge. Agawa	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. King Edward	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. Leafield	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. Minnie M.	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. Monkshaven	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. Ossifrage	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Str. Paliki	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
Tug Philadelphia	Algoma Central S. S. Line, Sault Ste. Marie, Ont.
SAWYER, WIS.	
Bge. Baldwin, S. C.	A. Green, Green Bay, Wis.
Str. Burnham, Geo.	A. Green, Green Bay, Wis.
SHEBOYGAN, MICH.	
Schr. Abyssinia	Hutchinson & Co., Cleveland, O.
Str. Brazil	Wisconsin Transp. Co., Sheboygan, Wis.
Bge. Chipman, S.	Julius Kroos, Sheboygan, Wis.
Schr. Quickstep	Oley Groh, Sheboygan, Wis.
Tug Satisfaction	Oley Groh, Sheboygan, Wis.
SODUS POINT, N. Y.	
Bge. Case, J. I.	James Corrigan, Cleveland, O.
SOREL, P. Q.	
Str. Algerian	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Beaupre	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Berthier	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Bohemian	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Carolina	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Chambly	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Columbian	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Cultivateur	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Hamilton	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Hosanna	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Lamprairie	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Montreal	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Mouche-a-Feu	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Saguenay	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Terrebonne	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Three Rivers	Richelieu & Ontario Nav. Co., Montreal, Can.
Str. Virginia	Richelieu & Ontario Nav. Co., Montreal, Can.
SOUTH CHICAGO.	
Str. Brower, A. G.	U. S. Transportation Co., Cleveland.
Str. Dalton, H. G.	Great Lakes & St. Lawrence Trans. Co., Duluth, Minn.
Str. Devereux, J. H.	W. C. Richardson, Cleveland, O.
Str. Eastland	Michigan S. S. Co., Chicago, Ill.
Car Ferry No. 1	Lake Mich. Car Ferry Service, Chicago, Ill.
Str. Fischer, S. M.	Lake Mich. Car Ferry Service, Chicago, Ill.
Str. French, G. W.	C. W. Elphicke, So. Chicago, Ill.
Str. La Salle	Pittsburg Steamship Co., Cleveland.
Str. Livingston, W.	Wm. Livingstone, Detroit, Mich.
Str. Manitou	Manitou S. S. Co., Chicago, Ill.
Str. Matoa	Pittsburg Steamship Co., Cleveland.
Str. Miller, P. P.	J. E. Ball, Buffalo, N. Y.
Str. Queen City	Pittsburg Steamship Co., Cleveland.
Str. Shaw	Pittsburg Steamship Co., Cleveland.
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Str. Yale	R. R. Rhodes, Cleveland, O.

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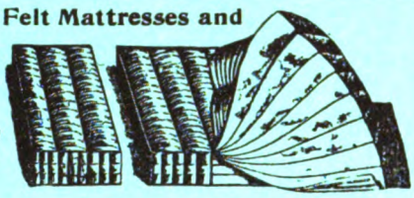

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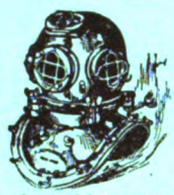

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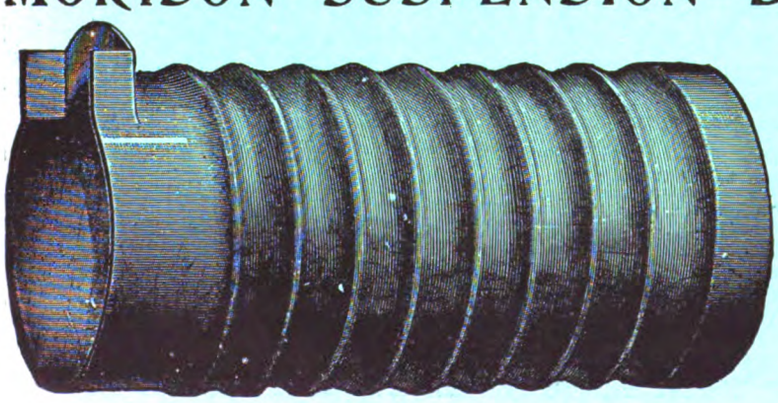

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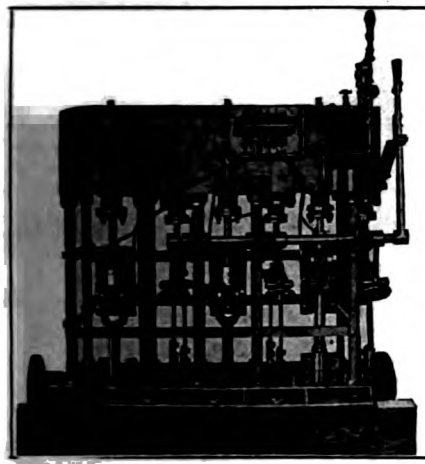

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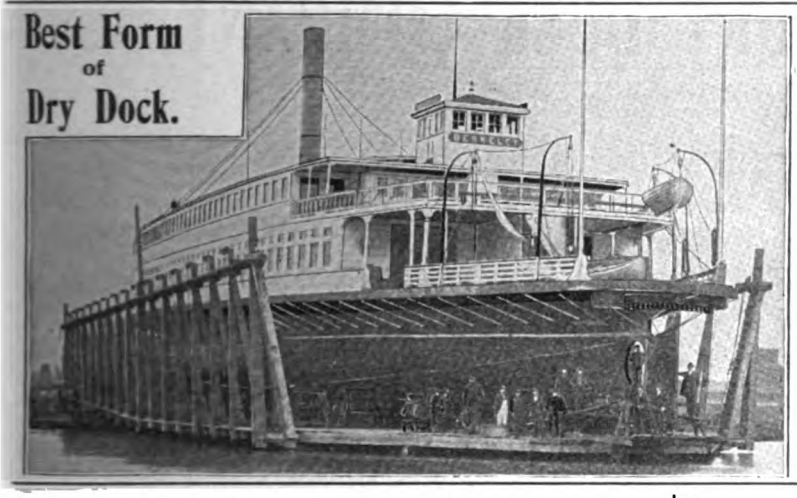

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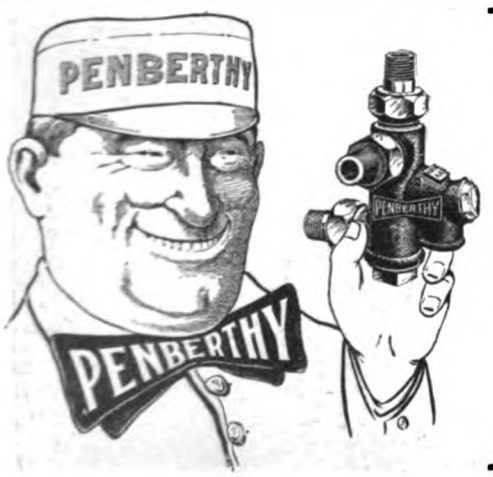

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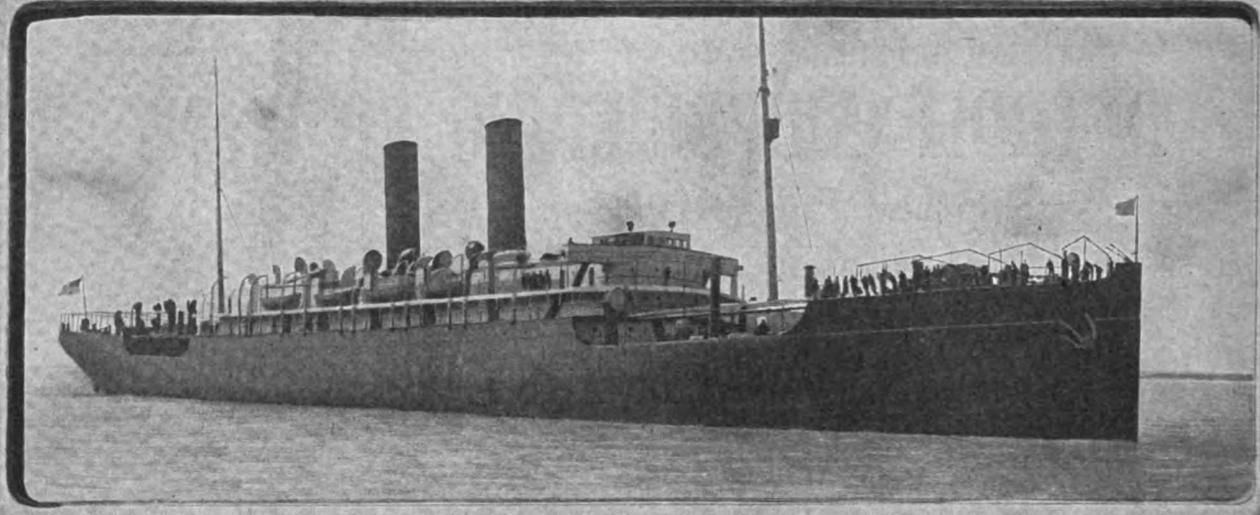

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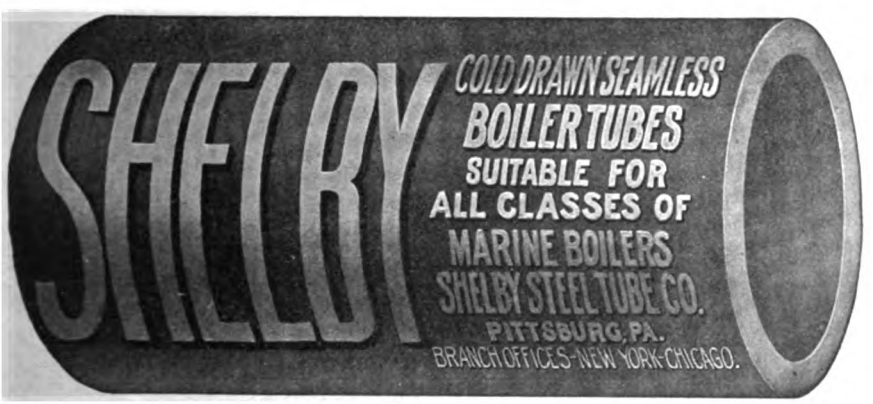

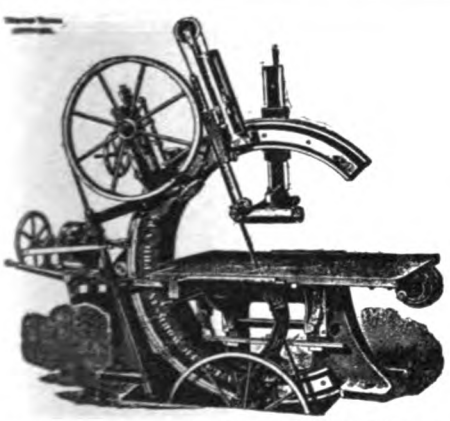

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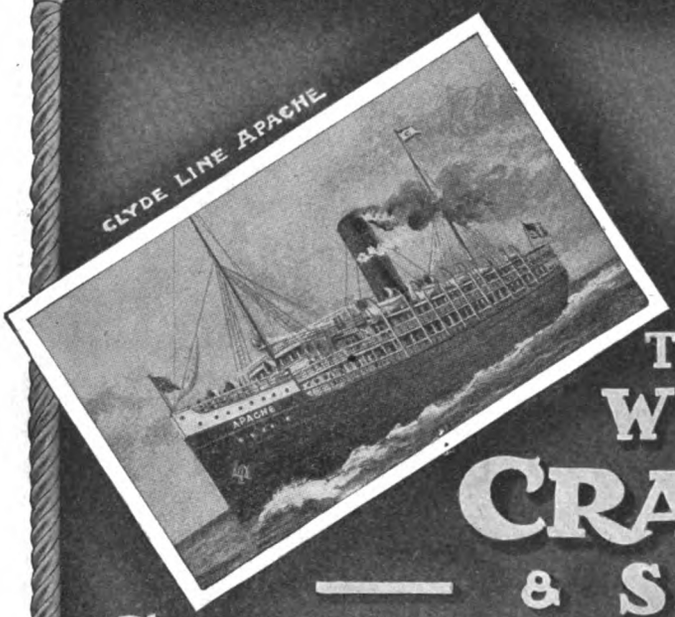

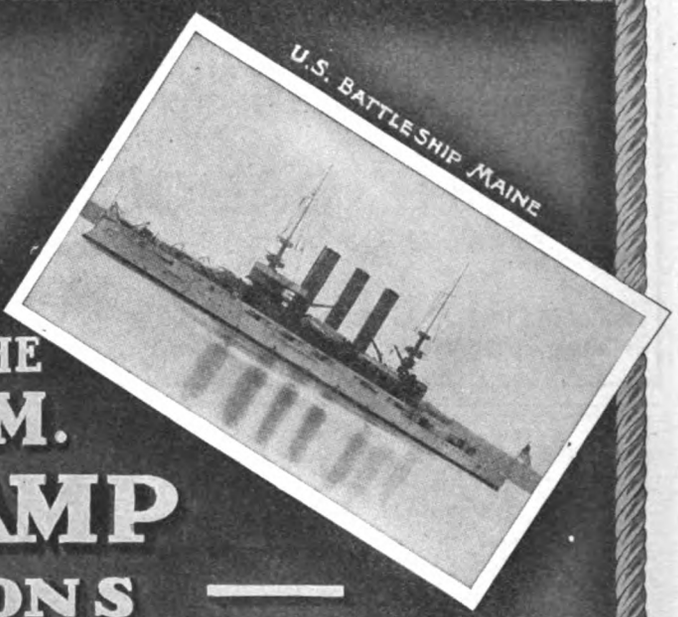

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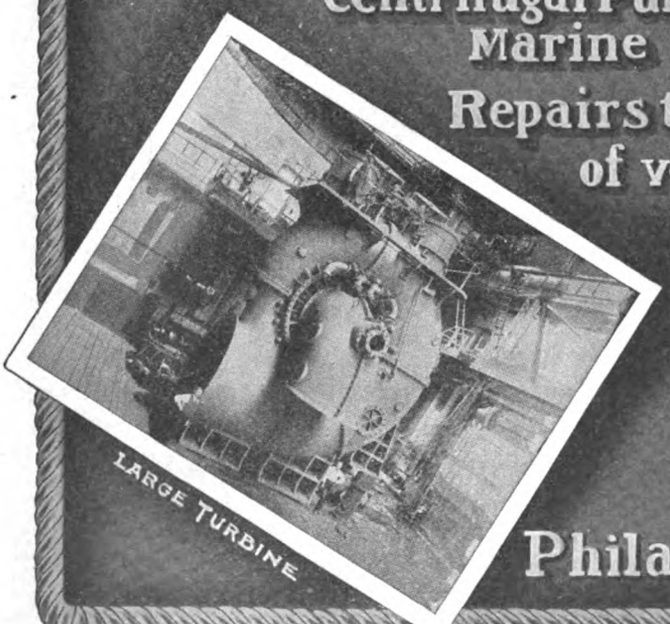

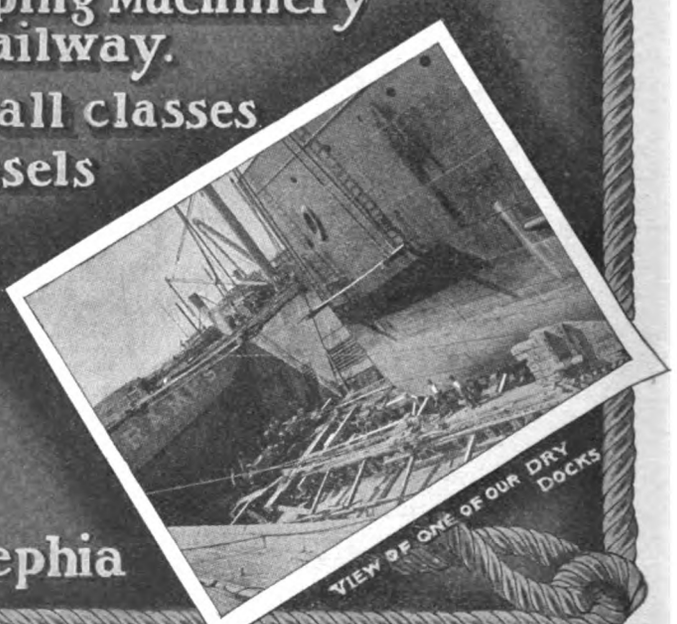

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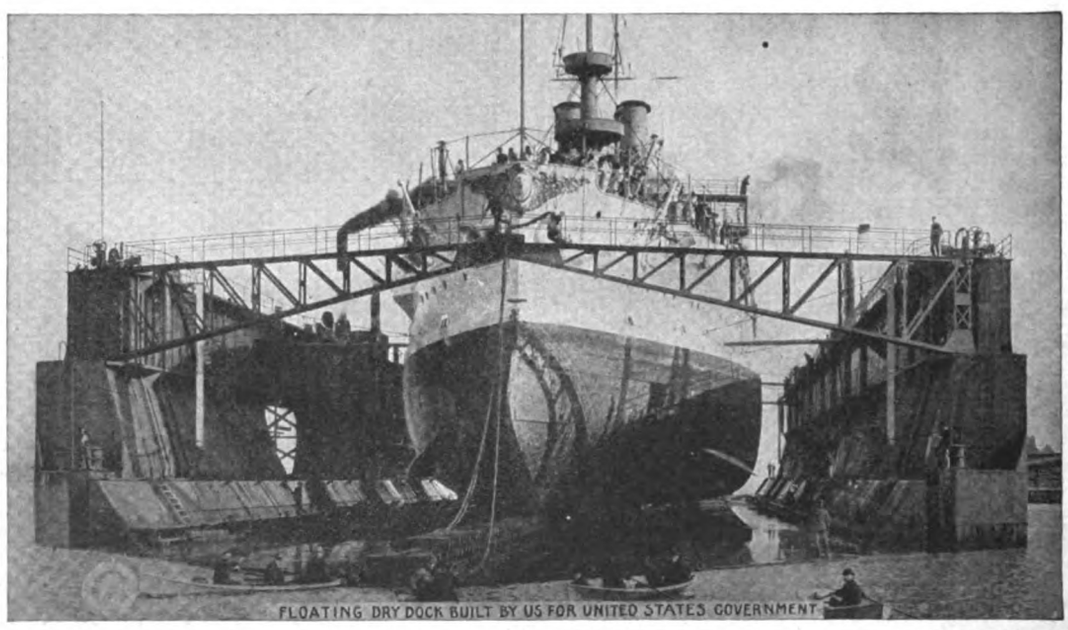

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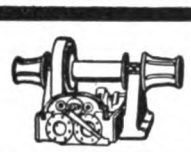

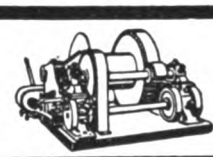

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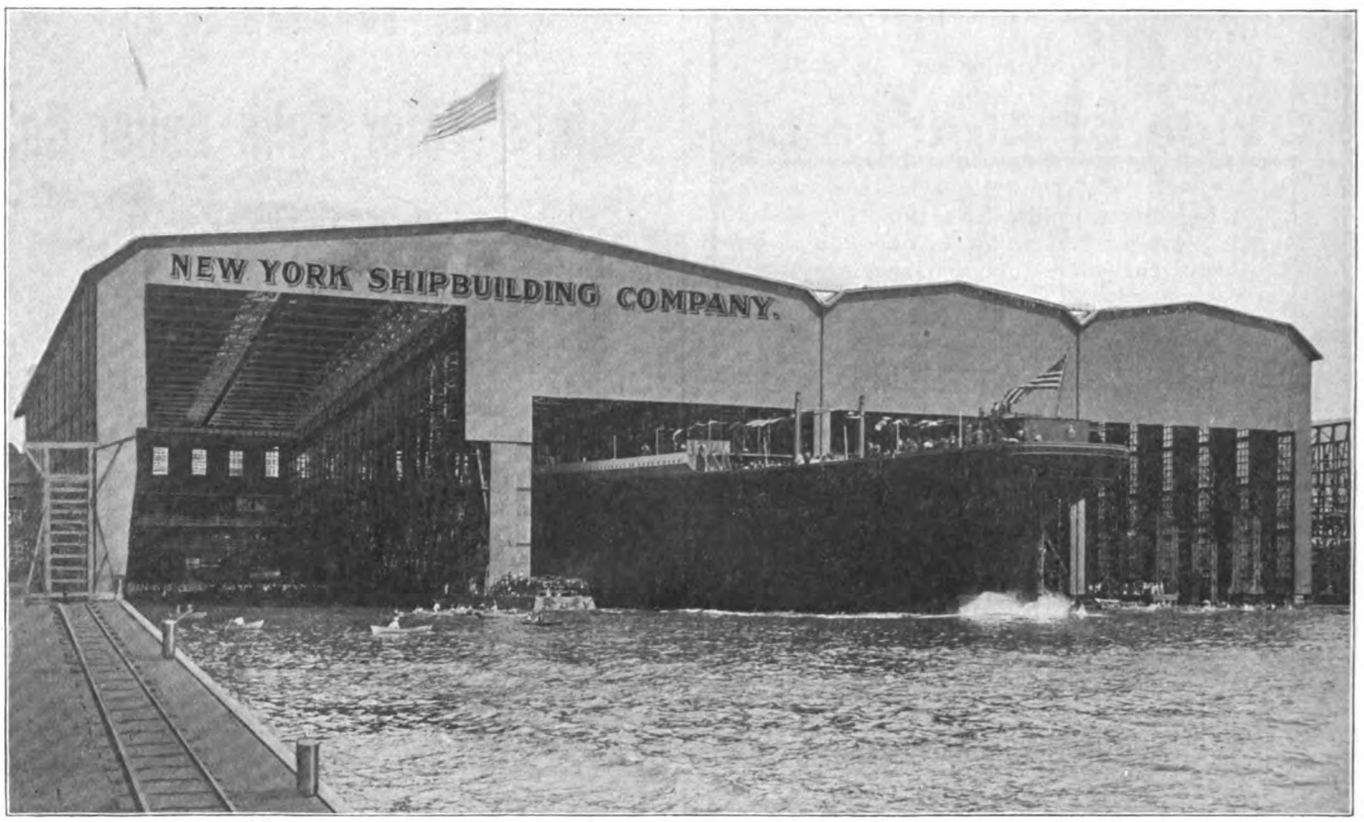

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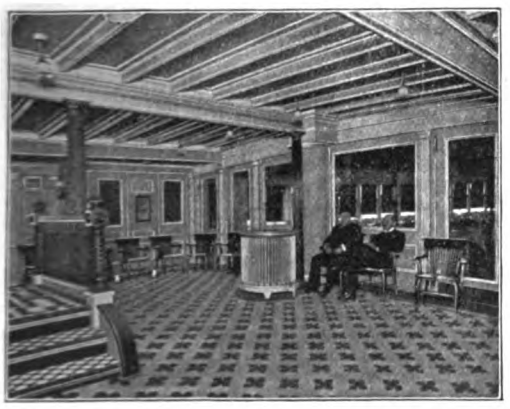

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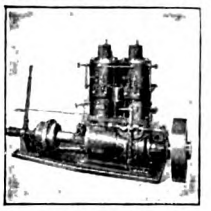

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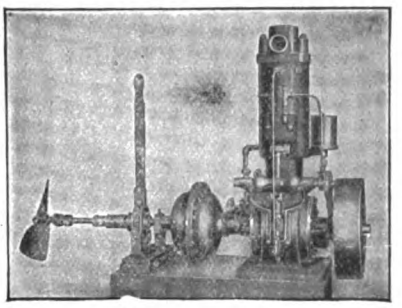

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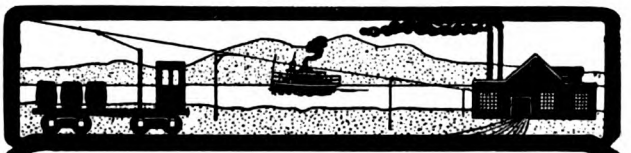

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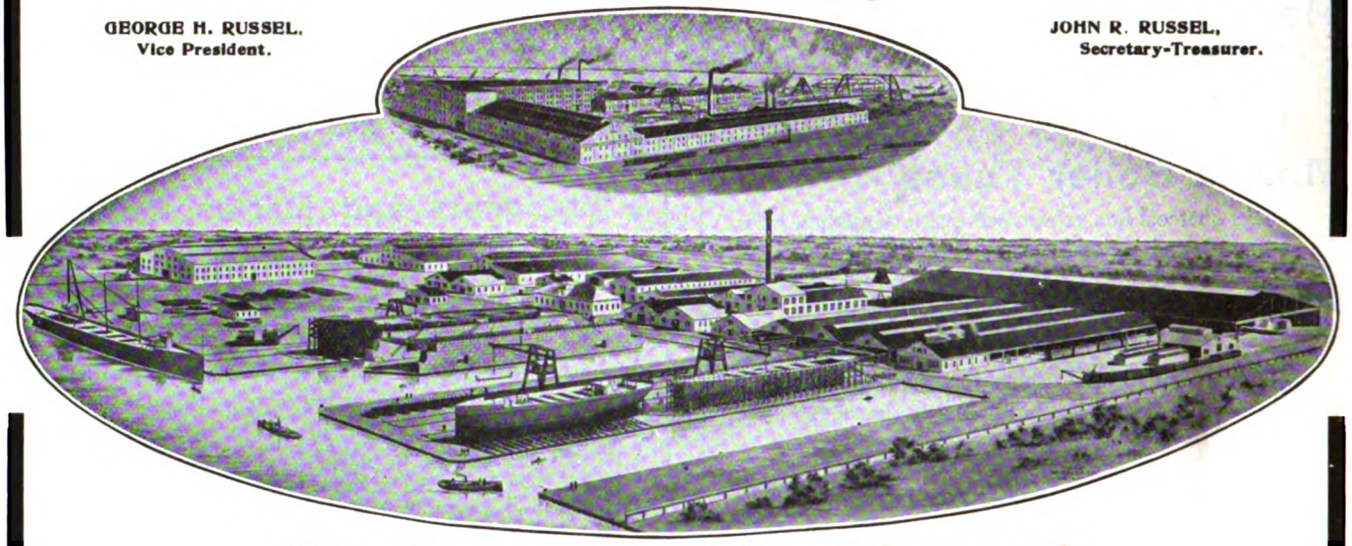

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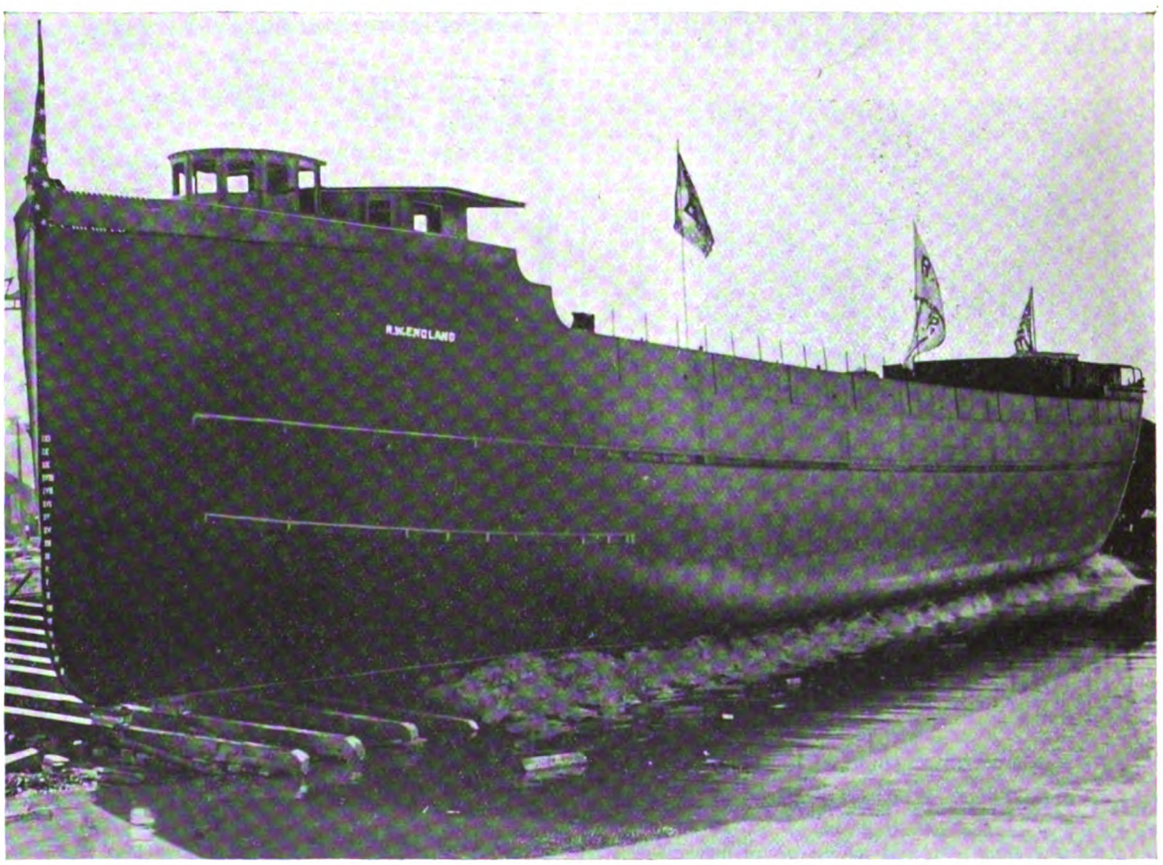

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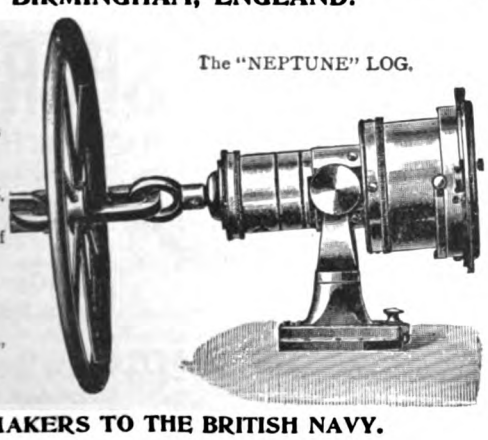

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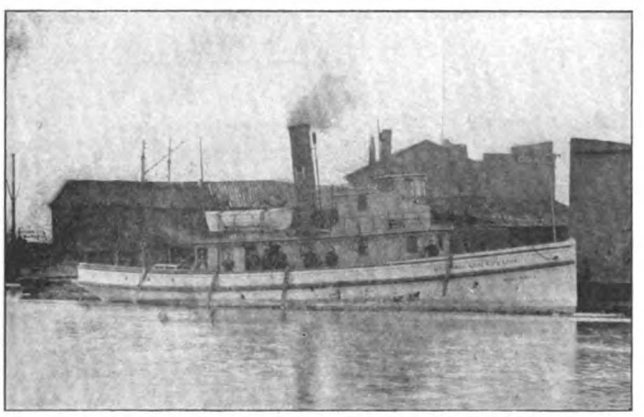

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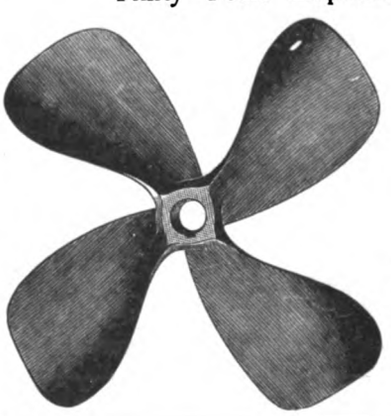

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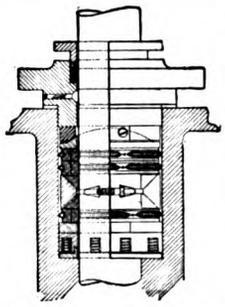

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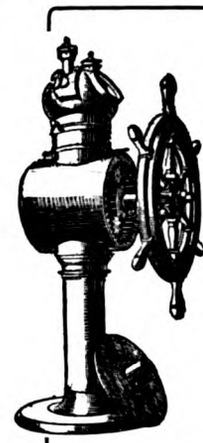

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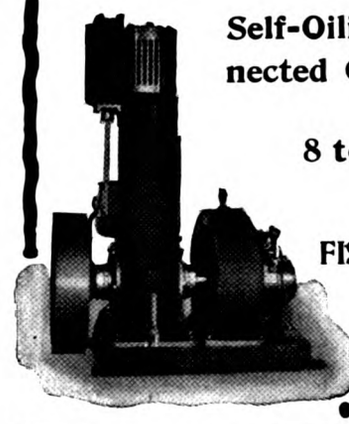

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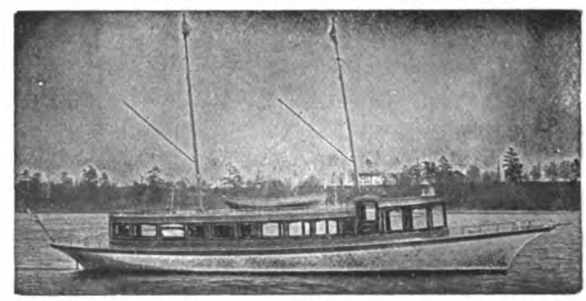

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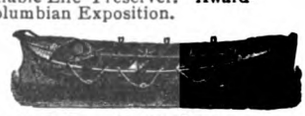

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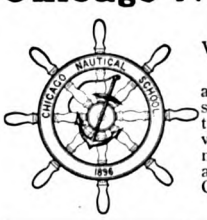

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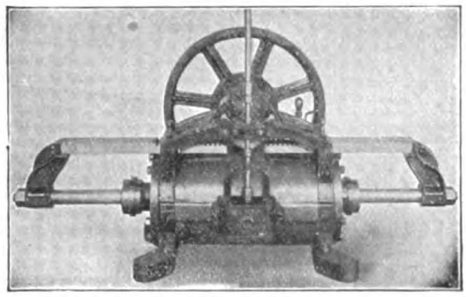

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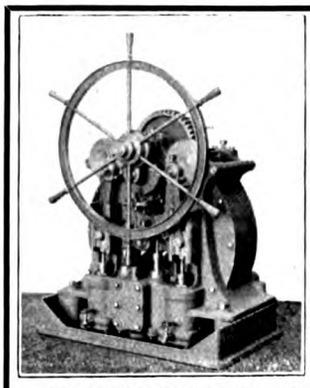

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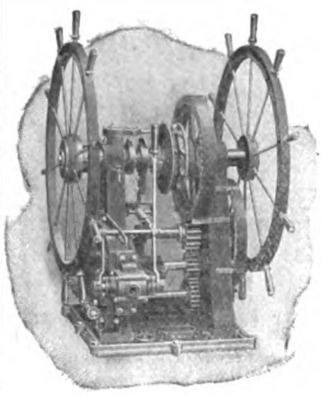

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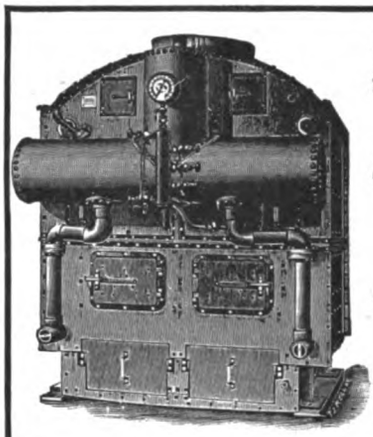

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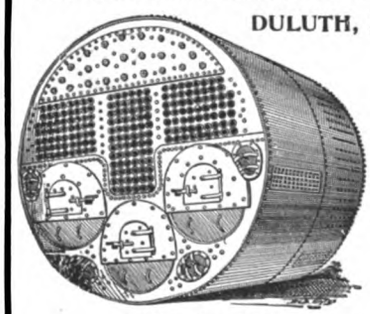

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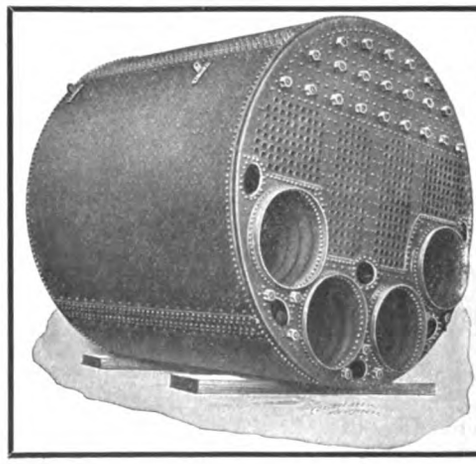

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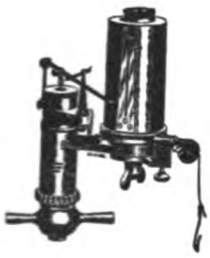

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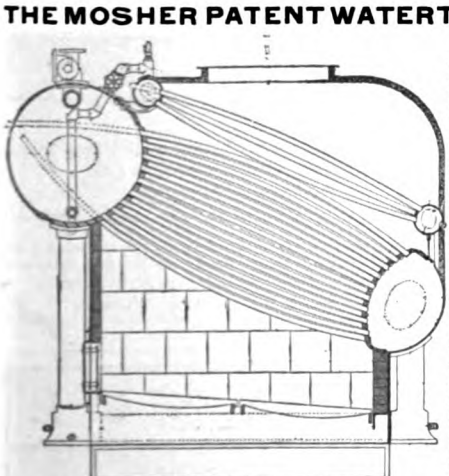

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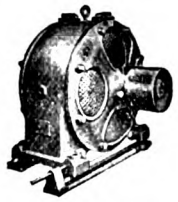

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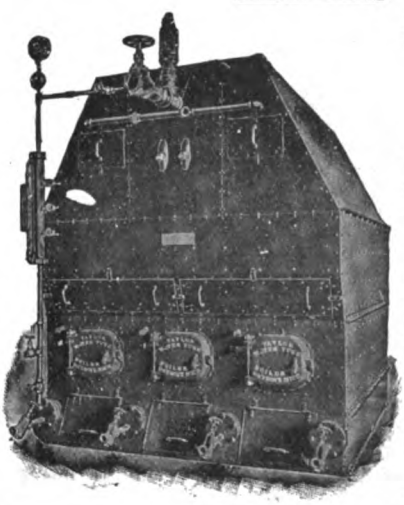

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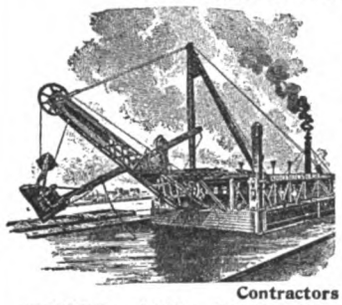

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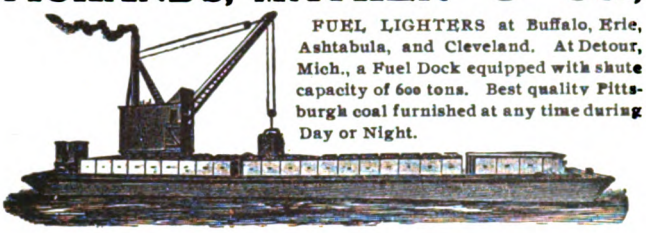

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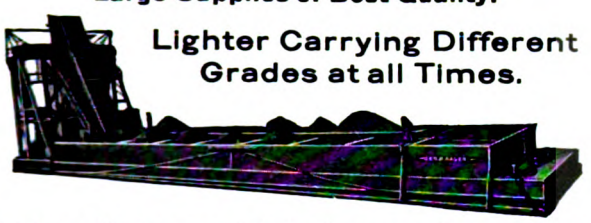

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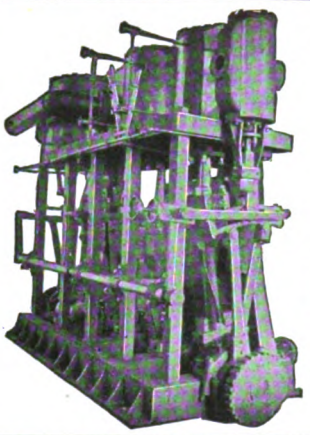

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Hynd, Alexander .....Cleveland.
Kidd, Joseph.....Duluth, Minn.
Kreer & Parsons. ..... Chicago.
Lovejoy, H. O.....Buffalo.
Matteson & Drake.....Philadelphia.
Mosher, Chas. D.....New York.
Nacey, James .....Cleveland.
Rice, Henry .....Buffalo.
Wood, W. J.....Chicago.

OAKUM.
DeGrauw, Aymar & Co.....New York.
Stratford, Oakum Co.....Jersey City, N. J.

OIL ENGINES.
Mietz, Aug. .....New York.

OILS AND LUBRICANTS.
Dixon Crucible Co., Joseph..Jersey City, N. J.
Standard Oil Co.....Cleveland.

PACKING.
Crane Co. .....Chicago.
Jenkins Bros. .....New York.
Katzenstein, L. & Co.....New York.
New York Belting & Packing Co...New York.

PACKING TOOL.
Matteson & Drake .....Philadelphia.

PAINTS.
Baker, Howard H. & Co.....Buffalo.
Detroit Varnish Co.....Detroit.
Detroit White Lead Works.....Detroit.
New Jersey Zinc Co.....New York.
Upson-Walton Co. .....Cleveland.

PATTERN SHOP MACHINERY.
Atlantic Works, Inc.....Philadelphia.

PILE DRIVING AND SUBMARINE WORK.
Buffalo Dredging Co.....Buffalo.
Chicago & Gt. Lakes Dredge & Dock Co..
..... Chicago.
Dunbar & Sullivan Dredging Co.....Buffalo.
Fitz-Simons & Connell Co.....Chicago.
Hickler Bros. .....Sault Ste. Marie, Mich.
Lake Superior Contracting & Dredging Co.,
.....Duluth, Minn.
Parker Bros. Co., Ltd.....Detroit.
Smith Co., L. P. & J. A.....Cleveland.
Starke Dredge & Dock Co., C. H...Milwaukee.
Sullivan, M. .....Detroit.

PIPE, WROUGHT IRON.
Bourne-Fuller Co.....Cleveland, O.
Crane Co. .....Chicago.
Macbeth Iron Co.....Cleveland.
Reading Iron Co.....Reading, Pa.

PLANING MILL MACHINERY.
Atlantic Works, Inc.....Philadelphia.

PLATES—SHIP, STRUCTURAL, ETC.
Bourne-Fuller Co.....Cleveland, O.
Otis Steel Co.....Cleveland.
Reading Iron Co ....Reading Pa.

PRESSURE REGULATORS.
Kieley & Mueller .....New York.
Ross Valve Co.....Troy, N. Y.

PROPELLER WHEELS.
American Ship Building Co.....Cleveland.
Atlantic Works .... East Boston, Mass.
Cramp, Wm. & Sons.....Philadelphia.
Detroit Ship Building Co.....Detroit.
Fore River Shipbuilding Co.....Quincy, Mass.
Great Lakes Engineering Works.. Detroit.
Hyde Windlass Co.....Bath, Me.
Jenks Ship Building Co....Port Huron, Mich.
Lockwood Mfg. Co.....East Boston, Mass.
Marine Iron Works ..... Chicago.
Milwaukee Dry Dock Co.....Milwaukee.
Newport News Ship Building Co.....
.....Newport News, Va.
Roelker, H. B.....New York.
Sheriffs Mfg. Co.....Milwaukee.
Superior Ship Building Co....Superior, Wis.
Thropp & Sons Co., J. E.....Trenton, N. J.
Trout, H. G.....Buffalo.

PROJECTORS, ELECTRIC.
General Electric Co.....Schenectady, N. Y.
Westinghouse Electric & Mfg. Co.....
..... Pittsburg, Pa.

PUMPS FOR VARIOUS PURPOSES.
Blake, Geo. F., Mfg. Co.....New York.
Great Lakes Engineering Works Detroit.
Marine Iron Works ....Chicago.
Kingsford Foundry & Machine Works....
..... Oswego, N. Y.

REFRIGERATING APPARATUS.
Great Lakes Engineering Works.....Detroit.
Roelker, H. B. .....New York.

REGISTER FOR CLASSIFICATION OF VESSELS.
Great Lakes Register .....Cleveland.
Record of American & Foreign Shipping..
.....New York.

REPAIRS—ENGINE AND BOILER.
(See also Boiler Manufacturers and Engine Builders.)
Georgian Bay Engineering Works.....
.....Midland, Ont.

RIVETS, STEEL FOR SHIPS AND BOILERS.
Bourne-Fuller Co.....Cleveland, O.

SAFETY VALVES.
American Steam Gauge & Valve Mfg. Co.
..... Boston.
Ashton Valve Co.....Boston.
Crane Co. .....Chicago.
Lunkenheimer Co. .....Cincinnati.

SAIL MAKERS.
Baker, Howard H. & Co.....Buffalo.
Upson-Walton Co.....Cleveland.

SALVAGE COMPANIES.
See Wrecking Companies.

SCHOOLS—NAVIGATION.
Chicago Nautical School.....Chicago.

SEARCH LIGHTS.
General Electric Co.....Schenectady, N. Y.
Westinghouse Electric & Mfg. Co.....
.....Pittsburg, Pa.

SHEARS.
See Punches, Rivets, and Shears.

SHIP AND BOILER PLATES AND SHAPES.
Bourne Fuller Co.....Cleveland, O.
Otis Steel Co.....Cleveland.
Reading Iron Co..... .....Reading, Pa.

SHIP BUILDERS.
American Ship Building Co.....Cleveland.
Atlantic Works .....East Boston, Mass.
Bertram Engine Works Co., Ltd. Toronto, Can.
Buffalo Dry Dock Co.....Buffalo.
Cramp, Wm. & Sons.....Philadelphia.
Craig Ship Building Co.....Toledo, O.
Chicago Ship Building Co.....Chicago.
Detroit Ship Building Co.....Detroit.
Fore River Shipbuilding Co.....Quincy, Mass.
Great Lakes Engineering Works.....Detroit.
Jenks Ship Building Co....Port Huron, Mich.
Lockwood Mfg. Co.....East Boston, Mass.
Maryland Steel Co.....Sparrows Point, Md.
Milwaukee Dry Dock Co.....Milwaukee.
Newport News Ship Building Co.....
.....Newport News, Va.
New York Shipbuilding Co.....Camden, N. J.
Roach's Ship Yard .....Chester, Pa.
Shipowner's Dry Dock Co.....Chicago.
Smith & Son, Abram.....Algonac, Mich.
Willard, Chas. P. & Co.....Chicago.

SHIP CHANDLERS.
Baker, Howard H. & Co.. .....Buffalo.
Marine Mfg. & Supply Co.....New York.
Upson-Walton Co.....Cleveland.

SHIP DESIGNERS.
Kidd, Joseph.....Duluth.
Kreer & Parsons.....Chicago.
Matteson & Drake.....Buffalo.
Rice & Lovejoy.....Buffalo.
Steel, Nacey & Hynd.....Cleveland.
Wood, W. J.....Chicago.

SHIP LANTERNS AND LAMPS.
Russell & Watson .....Buffalo.

SHIP TIMBER.
Martin-Barriss Co.....Cleveland.

SMOOTH-ON COMPOUND, FOR REPAIRS.
Smooth-On Mfg. Co.....Jersey City, N. J.

STAYBOLTS, IRON OR STEEL, HOLLOW OR SOLID.
Falls Hollow Staybolt Co..Cuyahoga Falls, O.
Reading Iron Co.....Reading, Pa.

STEAM VESSELS FOR SALE.
Gilchrist & Co., C. P. .....Cleveland.
Holmes, Samuel .....New York.
Lester, S. S.....Quebec, Can.
McCarthy, T. R.....Montreal, Can.

STEAMSHIP LINES, PASS. AND FREIGHT.
American Line .....New York.
Anchor Line .....Buffalo.
Boston Steamship Co .....Boston.
International Mercantile Marine Co.....
..... Philadelphia.
New York & Cuba Mail S. S. Co..... New York
Red Star Line .....New York.
United Fruit Co .....Boston.

STEEL CASTINGS.
Otis Steel Co.....Cleveland.

STEERING APPARATUS.
American Ship Building Co.....Cleveland.
Chase Machine Co.....Cleveland.
Dake Engine Co.....Grand Haven, Mich.
Detroit Ship Building Co.....Detroit.
Hyde Windlass Co.....Bath, Me.
Jenks Ship Building Co....Port Huron, Mich.
Marine Mfg. & Supply Co.....New York.
Moulton Steering Engine Co.....New York.
Pawling & Harnischfeger .....Milwaukee.
Sheriffs Mfg. Co.....Milwaukee.

SUBMARINE DIVING APPARATUS.
Morse & Son, A. J.....Boston.
Schrader's Son, A.....New York.

SURVEYORS, MARINE.
Gaskin, Edward .....Buffalo.
Hynd, Alexander .....Cleveland.
Lovejoy, H. O.....Buffalo.
Matteson & Drake .....Philadelphia.
Parker Bros. Co., Ltd.....Detroit.
Nacey, James .....Cleveland.
Rice, Henry .....Buffalo.
Steel, Adam .....Cleveland.
Wood, W. J.....Chicago.

TESTS OF MATERIALS.
Hunt, Robert W. & Co.....Chicago.
Lunkenheimer Co .....Cincinnati, O

TILING, INTERLOCKING RUBBER.
New York Belting & Packing Co...New York.

TOOLS, METAL WORKING, FOR SHIP AND ENGINE WORKS.
Watson-Stillman Co.....New York.

TOOLS, WOOD WORKING.
Atlantic Works, Inc.....Philadelphia.

TOWING MACHINES.
American Ship Windlass Co..Providence, R. I.
Chase Machine Co.....Cleveland.

TOWING COMPANIES.
Donnelly Salvage & Wrecking Co.....
.....Kingston, Ont.

TRAPS, STEAM.
Kieley & Mueller .....New York.
Sturtevant Co., B. F., ...Hyde Park, Mass.

TRUCKS.
Boston & Lockport Block Co.....Boston.

TUBING, SEAMLESS.
Shelby Steel Tube Co.....Pittsburg, Pa.

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Ashton Valve Co. ..... Boston.
Crane Co. ..... Chicago.
Jenkins Bros. ..... New York.
Kieley & Mueller ..... New York.
Lunkenheimer Co. ..... Cincinnati.
Ross Valve Co. ..... Troy, N. Y.

VALVES FOR WATER AND GAS.
Lunkenheimer Co. ..... Cincinnati.
Ross Valve Co. ..... Troy, N. Y.

VARNISHES.
Detroit Varnish Co. ..... Detroit.
Detroit White Lead Works. ..... Detroit.
New Jersey Zinc Co. ..... New York.
Also Ship Chandlers.

VENTILATING APPARATUS FOR SHIPS.
Sturtevant, B. F. Co. ..... Hyde Park, Mass.

VESSEL AND FREIGHT AGENTS.
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Brown & Co. ..... Buffalo.
Elphicke, C. W. & Co. ..... Chicago.
Fleming & Co., E. J. ..... Chicago.
Gilchrist & Co., C. P. ..... Cleveland.
Hall, John B. ..... Buffalo.
Helm & Co., D. T. ..... Duluth.

VESSEL AND FREIGHT AGENTS—Con.
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Hutchinson & Co. ..... Cleveland.
Lester, S. S. ..... Quebec, Can.
McCarthy, T. R. ..... Montreal.
Mitchell & Co. ..... Cleveland.
Parker Bros. Co., Ltd. ..... Detroit.
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WATER GAUGES.
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Lunkenheimer Co. ..... Cincinnati, O.

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Baker, H. H. & Co. ..... Buffalo.
DeGrauw, Aymar & Co. ..... New York.
Upson-Walton Co. ..... Cleveland.

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American Steam Gauge & Valve Mfg. Co. ..... Boston.
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Lunkenheimer Co. ..... Cincinnati.

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Hyde Windlass Co. ..... Bath, Me.

WOOD WORKING MACHINERY.
Atlantic Works, Inc. ..... Philadelphia.

WRECKING AND SALVAGE COMPANIES.
Donnelly Salvage & Wrecking Co. ..... Kingston, Ont.
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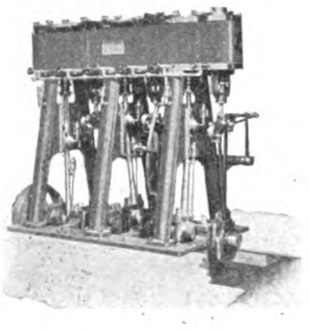

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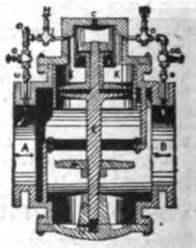

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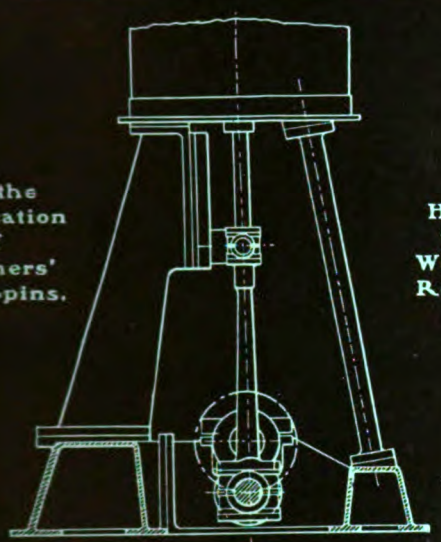

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Eastward	Arrive from West	Depart East
No. 18, Southwestern Limited	.....	*1:50 a.m.
No. 22, Lake Shore Limited	*2:12 a.m.	*2:20 a.m.
No. 20, Chicago and Cleveland Exp.	*7:20 a.m.	.....
No. 28, New York and Boston Exp.	*7:40 a.m.	*8:00 a.m.
No. 40, Toledo and Buffalo Accom	†10:00 a.m.	†10:30 a.m.
No. 32, Fast Mail	*11:25 a.m.	*11:30 a.m.
No. 48, Accommodation via Sandusky	†1:40 p.m.	.....
No. 42, Boston–New York Express	.....	*11:45 a.m.
No. 44, Cleveland and New York Spl.	.....	*3:00 p.m.
No. 46, Southwestern Express	.....	*3:10 p.m.
No. 116, Ashtabula Accommodation	.....	†4:30 p.m.
No. 6, Limited Fast Mail	*5:40 p.m.	*5:45 p.m.
No. 26, 20th Century Limited	*7:40 p.m.	*7:43 p.m.
No. 10, Chicago, N.Y. & Boston Spl.	*7:30 p.m.	*7:50 p.m.
No. 16, New England Express	*10:30 p.m.	*10:35 p.m.
No. 2, Day Express	†9:10 p.m.	†9:25 p.m.
No. 126, Norwalk Accommodation	†7:55 a.m.	.....

Westward	Arrive from East	Depart West
No. 7, Exposition Limited	*12:50 a.m.	.....
No. 11, Southwestern Limited	*2:55 a.m.	.....
No 9, Day Express	.....	†6:10 a.m.
No. 15, Boston and Chicago Special	*3:10 a.m.	*3:15 a.m.
No. 19, Lake Shore Limited	*7:15 a.m.	*7:25 a.m.
No. 23, Western Express	*10:30 a.m.	*10:35 a.m.
No. 29, Southwestern Special	‡11:10 a.m.	.....
No 33, Southwestern Express	*12:25 p.m.	.....
No. 133, Cleveland and Detroit Exp.	.....	*12:45 p.m.
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No. 127, Norwalk Accommodation	.....	†5:10 p.m.
No. 37, Pacific Express	*6:50 p.m.	*7:20 p.m.
No. 3, Fast Mail Limited	*10.50 p.m.	*10:55 p.m.
No 115, Ashtabula Accommodation	*8.30 a.m.	.....

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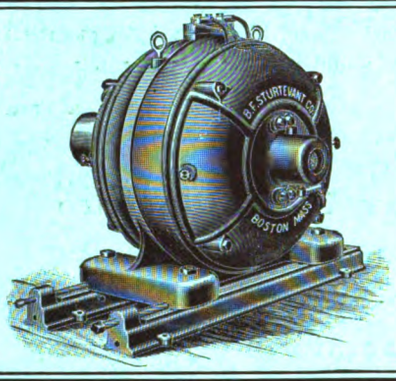

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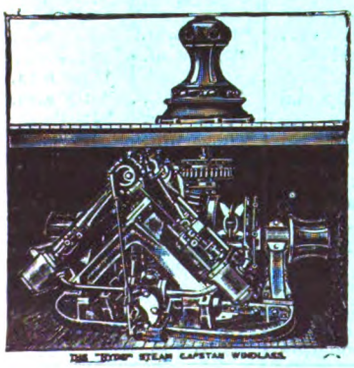

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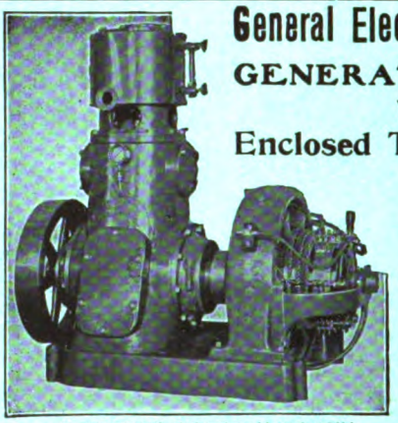

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